



# OPERATION & SERVICE MANUAL



**Models: TT-4, TT-5, TT-6, TT-8  
Yanmar Diesel 4TNV98 Engine**

04/2023 – Rev. 49

**For Spare Parts, Operations & Service Manuals or Service Needs  
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REVISION	DATE	TEXT AFFECTED
07	05/2013	Revised aluminum radiator part number, revised transmission mount part number, added exhaust bracket part number
08	06/2013	Revised exhaust system design
09	08/2013	Replaced cab wiring schematic
10	09/2013	Revised 80A alternator part number and alternator excite wiring/installation
11	10/2013	Added key switch and key switch bracket part numbers
12	11/2013	Removed Warranty Statement
13	12/2013	Added note on standard tire sizes
14	02/2014	A-TT4-00119 Nylon Washer was obsoleted
15	06/2014	Added dual analog throttle pedal, added new steering shaft assembly, added new power steering reservoir, made several minor corrections
16	07/2014	Added relay part numbers to Tier3 engine harness
17	08/2014	Updated throttle pedal part number
18	08/2014	Updated tire part numbers and descriptions
19	08/2014	Corrected engine dress part numbers. Updated preventive maintenance schedule. Added H30 display/controller (obsolete) information for historical data. Updated engine thermostat part number. Relocated filter reference chart. Added historic throttle pedal replacement information
20	10/2014	Updated from axle saddle clamp and U-bolt part numbers
21	10/2014	Power steering reservoir superseded by new version, new schematic for dual-analog throttle pedal, corrected brake line labels
22	11/2014	Updated fuel fitting, coolant overflow hose size
23	11/2014	Added brake linkage clevis washers
24	01/2015	Updated transmission for new housing type
25	02/2015	Updated Tier III wiring schematic
26	02/2015	Updated lubricity filter parts and fuel system diagram
27	04/2015	Corrected engine dress. Listed part number for oil pressure switch. Corrected hardware size, several locations. Corrected relay part number, hydraulic fitting, and engine oil capacity. Added steering fluid fill procedure.
28	06/2015	Updated Tier 2 Vehicle Logic Harness Schematic. Corrected torques in maintenance section. Added key switch diagram and part numbers.
29	06/2015	Corrected part numbers in 2WD axle chart. Corrected descriptions in rear brake drum assembly. Added headlight and tail light information. Replaced dash wiring harness schematic.
30	08/2015	Revised tail light schematic and corrected clip-on nut part number. Part numbers added for fuse block and terminal block
31	10/2015	Added fuel stop solenoid, revised parts table for drum brake assembly - rear, and updated the engine wiring harness - Yanmar tier 2 diesel.
32	01/2016	Added 90° elbow for heater connection and notes to engine cooling system. Corrected clevis pin and cotter pin information in parking brake system. Revised headlight schematic. Corrected tire pressure in maintenance section and modified instructions for towing in ice or snow. Corrected rear axle cover gasket part number.
33	03/2016	Revised fuel tank fittings and cab wiring schematic
34	05/2016	Updated part numbers for the rear brake adjusting kits. Updated steering system breakdown diagram and bill of material. Updated instrument panel parts list.
35	08/2016	Minor corrections
36	09/2016	Added inseparable assembly notes and fuel-water separator O-ring part numbers
37	01/2017	Added full list of engine fault codes from Yanmar
38	01/2017	Added/corrected exhaust mounting hardware
39	02/2017	Corrected engine fault codes
40	04/2017	Added block heater P/N, multiple corrections
41	03/2018	Added Engine Cooling System Tier IV
42	10/2018	Corrected engine block heater part number. Added note about drag link assembly orientation
43	11/2018	Corrected dash panel part number, added part numbers for dash panel plugs
44	03/2019	Updated Contact Information
45	02/2020	Updated hydraulic assist system
46	05/2020	Added new pump/hose/fitting layout for units built 6/2020 and later
47	02/2022	Modified 15.1 Fuel System, 16.1 Air Cleaner Assembly, 20.1 Headlight, Taillight & Spotlight Assembly, 21.1 Body Assembly
48	11/2022	Editorial – changed A-TT8-00417 to A-TT8-00417-P
	03/2023	Modified 7.7 Head Cover Assembly, 7.16 Lube – Oil System, 11.10 Axle Assembly Breakdown – Rear Drive, 14.1 Steering System Breakdown, 17.1 Exhaust System, and 22.1 Wheel & Tire Assembly
49	04/2023	Modified 14.1 Steering System Breakdown



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From everyone at Eagle Tugs, we would like to say Thank You for purchasing an Eagle TT-series tow tractor. We take a lot of pride in the quality of the products that we build, as well as our continued customer service. Our goal is to build a long term relationship with our customers. We want you, the customer, to be 100% satisfied with your Eagle experience. To us, this means that your Eagle TT-series tractor is functionally superior to any other products you have used. This also means that your Eagle product is continually supported in a professional, timely manner.

## 1.0 PRODUCT INFORMATION

### 1.1 DESCRIPTION

This manual is designed as a reference guide to make the reader more familiar with the components of the Eagle TT-4, TT-5, TT-6, and TT-8 tow tractor models. This manual includes part numbers and descriptions to assist the reader in ordering component spare/service parts. The manual also outlines the Scheduled Maintenance Intervals recommended by Eagle in order to keep your vehicle running properly. In this manual you will also find the Eagle Standard Warranty on all of the TT-series tow tractors. However, for more detailed information on the Eagle Warranty and procedure, as well as information pertaining to the safe operation of your Eagle product, please see the Eagle Operations Manual that was also included with your vehicle.

### 1.2 MODEL & SERIAL NUMBER

Reference nameplate on unit

### 1.3 MANUFACTURER

#### **Eagle Tugs**

1 Air Cargo Pkwy East  
Swanton, Ohio 43558 USA

Telephone: (419) 866-6301 or 800-426-6301

Fax: 419) 867-0634

E-mail: sales@tronair.com

Website: www.eagletugs.com

### 1.4 TECHNICAL ASSISTANCE

When addressing a repair procedure or operational problem, please remember that Eagle technical support is only a phone call away. Eagle technicians are available to assist you in vehicle diagnostics and recommended repair procedures. We encourage you to use this service to reduce machine down-time and to gain a better understanding of proper repair procedures.

### 1.5 ENGINE DETERMINATION

**Note: this manual covers parts & service for Eagle TT4—TT8 2WD and all wheel drive Models with both the Yanmar Tier II and Tier III engines. Please be sure to check the Heading on each page to see if the parts referenced are for a:**

#### **YANMAR TIER II DIESEL**

or

#### **YANMAR TIER III DIESEL**

All pages without the above in the description denote parts are used on models powered with both a Yanmar Tier II and Yanmar Tier III engine.

To determine if your tug is powered by a Tier II or Tier III engine you can check the display located on the dashboard by the following.

1. Turn display "on"
2. Press enter
3. Scroll to "eagle set up"
4. Press enter
5. You will see "select engine : Yanmar Tier II or Yanmar Tier III" on your screen

To determine if your tug is powered by a Tier II or Tier III engine without turning on display.

All Tier II tugs are equipped with a manual aluminum foot pedal and all Tier III tugs are equipped with a black plastic electronic foot pedal.

## 2.0 SAFETY INFORMATION

### 2.1 USAGE AND SAFETY INFORMATION

To insure safe operations please read the following statements and understand their meaning. Also refer to your equipment manufacturer's manual for other important safety information. This manual contains safety precautions which are explained below. Please read carefully.



#### **WARNING!**

Warning is used to indicate the presence of a hazard that can cause **severe personal injury, death, and/or substantial property damage** if the Warning Notice is ignored.



#### **CAUTION!**

Caution is used to indicate the presence of a hazard, which will or can cause **minor personal injury or property damage** if the Caution Notice is ignored.

### 2.2 IMPORTANT SAFETY NOTICE

Appropriate service methods and proper repair procedures are essential for the safe, reliable operation of all industrial engines as well as the personal safety of the individual performing the work. This Service Manual provides general directions for accomplishing service and repair work with tested and effective techniques. Following them will help assure reliability.

There are numerous variations in procedures, techniques, tools and parts for servicing equipment, as well as in the skill of the individual doing the work. This Manual cannot possibly anticipate all such variations and provide advice or cautions as to each. Accordingly, anyone who departs from the instructions provided in this Manual must first establish he compromises his/her personal safety, and/or the equipment integrity by his/her choice of methods, tools or parts.

### 2.3 GENERAL

The following list contains some general warnings that you should follow when you work on equipment:

- Always wear safety glasses for eye protection.
- Use safety stands whenever a procedure requires you to be under the equipment.
- Be sure that the ignitions switch is always in the OFF position, unless otherwise required by the procedure.
- Set the parking brake (if equipped) when working on the equipment. Place wood blocks (4" x 4" or larger) to the front and rear surfaces of the tires to provide further restraint from inadvertent equipment movement.
- Operate the engine only in a well-ventilated area to avoid the danger of carbon monoxide.
- Keep yourself and your clothing away from moving parts when the engine is running, especially the fan and belts.
- To prevent serious burns, avoid contact with hot metal parts such as the radiator, exhaust manifold, tail pipe, catalytic converter and muffler.
- Do not smoke while working on the equipment.
- To avoid injury, always remove rings, watches, loose hanging jewelry, and loose clothing before beginning to work on the equipment. Tie long hair securely behind the head.
- Keep hands and other objects clear of the radiator and blades.

For more information regarding safety please refer to the operations manual provided with your tug. This manual can also be found on the Eagle Tugs website at [www.eagletugs.com](http://www.eagletugs.com).

## 3.0 TRAINING

### 3.1 TRAINING REQUIREMENTS

The employer of the operator is responsible for providing a training program sufficient for the safe operation of the unit.

### 3.2 TRAINING PROGRAM

The employer provided operator training program should cover safety procedures concerning use of the unit in and around the intended aircraft at the intended aircraft servicing location.

### 3.3 OPERATOR TRAINING

The operator training should provide the required training for safe operation of the unit.

**NOTE: Maintenance and Trouble Shooting are to be performed by a skilled and trained technician.**

#### 4.0 YANMAR ENGINE TROUBLE SHOOTING

SYMPTOM	PROBABLE CAUSE	ACTION
<b>Indicator Turns On-Engine Running</b>		
Engine Coolant Indicator	Low engine Coolant	Add engine coolant
	Dirty radiator fins	Clean the radiator fins
	Engine coolant leaking	See authorized Yanmar industrial engine dealer or distributor
	V-belt loose or damaged	Adjust V-belt or replace
	Contaminated engine coolant	See authorized Yanmar industrial engine dealer or distributor
Battery Indicator	Faulty engine coolant pump	See authorized Yanmar industrial engine dealer or distributor
	V-belt loose or damaged	Adjust V-belt or replace
	Battery failure	Check battery condition
	Faulty alternator	See authorized Yanmar industrial engine dealer or distributor
<b>Indicator Does Not Turn On-Key Switch is Turned to ON (OFF-ON) Engine Not Running</b>		
	Faulty electrical wiring or faulty indicator	See authorized Yanmar industrial engine dealer or distributor
<b>Indicator Stays On-Key Switch is Turned from Start to ON (START-ON) Engine Not Running</b>		
Battery Indicator stays ON	Faulty alternator	See authorized Yanmar industrial engine dealer or distributor
Engine oil pressure indicator stays ON	Faulty engine oil pressure switch	See authorized Yanmar industrial engine dealer
	No or low level of engine oil	Check and adjust oil level as necessary
	Clogged engine oil filler	Replace engine oil filter
<b>Engine Does Not Start</b>		
Starter motor operates but engine does not start	No diesel fuel	Refuel and prime fuel system
	Air in fuel system	Prime fuel system
	Improper diesel fuel	Replace with recommended diesel fuel
	Clogged fuel filter	Replace fuel filter
	Poor fuel injection	
Starter motor does not operate or rotates too slowly(engine can be turned manually) Engine cannot be manually turned	Compressed air leakage from intake/exhaust valves	See authorized Yanmar industrial engine dealer or distributor
	Faulty engine stop solenoid	
	Battery needs charging	Check electrolyte, recharge
	Faulty starter switch	Clean terminals, retighten
	Faulty starter motor	See authorized Yanmar industrial engine dealer or distributor
	Inner parts seized or damaged	
<b>White or Black Exhaust Smoke</b>		
Black exhaust smoke	Engine overload	Reduce load
	Clogged air cleaner element	Clean element or replace
	Improper diesel fuel	Replace with recommended diesel fuel
	Faulty spraying of fuel injection	See authorized Yanmar industrial engine dealer or distributor
White exhaust smoke	Excessive intake/exhaust valve clearance	See authorized Yanmar industrial engine dealer or distributor
	Improper diesel fuel	Replace with recommended diesel fuel
	Faulty spray pattern of fuel injection	See authorized Yanmar industrial engine dealer or distributor
	Fuel injection timing delay	See authorized Yanmar industrial engine dealer or distributor
	Engine burning oil	



## 5.0 MAINTENANCE

### 5.1 DAILY OPERATOR RESPONSIBILITIES

#### Proper Fluid Checks

#### 5.1.1 Engine Oil

Check engine oil with the unit on a level surface, the key in the "OFF" position, the shifter position in "PARK" and parking brake applied. Open side access door. Remove dipstick from crankcase, wipe it with a cloth. Insert it fully and take out it gently again. Check the oil level by the marks on the dipstick. The oil level must be between the "Max" level and the "Min" level. DO NOT OVERFILL!

#### 5.1.2 Coolant

DO NOT remove recovery tank cap or check coolant level while engine is hot! With engine cool, the key in the "OFF" position, the shifter position in "PARK" and the parking brake applied, open hood, set hood prop and look at left side of recovery tank. The reservoir tank is translucent, so the fluid is readily visible without removing the cap. Fluid level should be at the "Cold fill level".

#### 5.1.3 Transmission Fluid

With unit in park and parking brake set in the "ON" position, start engine. Open side access door. Remove dipstick from transmission case, wipe it with a cloth. Insert it fully and take it out gently again. Check the fluid level by the marks on the dipstick. The transmission fluid level must be between the "Max" level and the "Min" level on the dipstick. DO NOT OVERFILL.

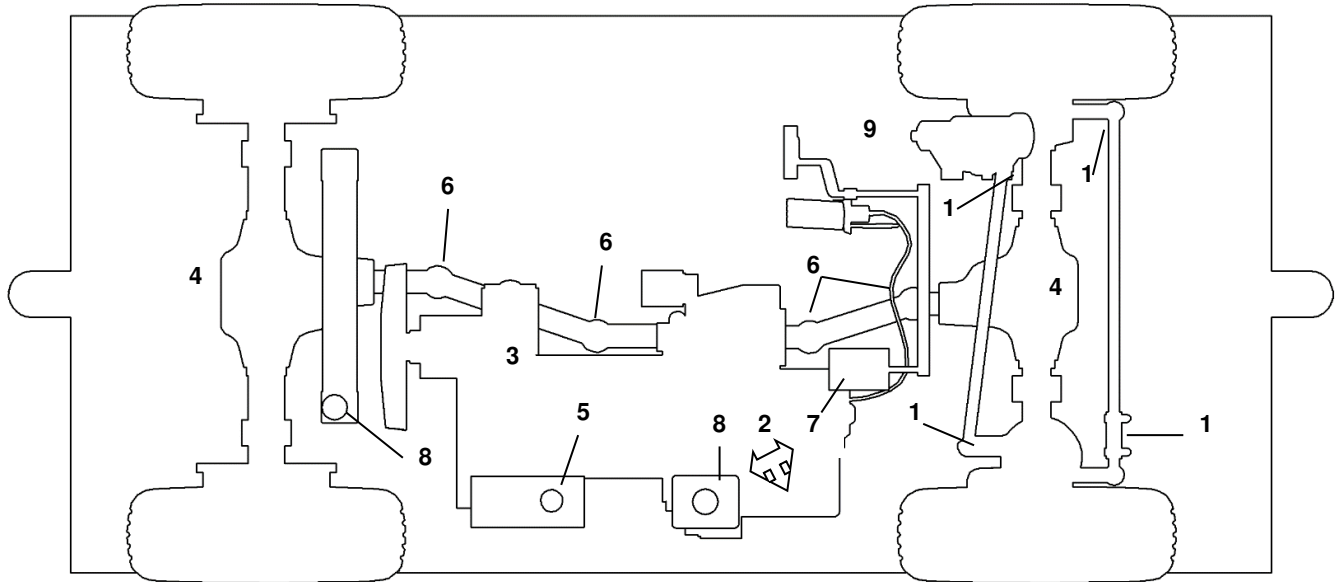
#### 5.1.4 Brake Fluid

Check brake fluid with the unit on a level surface, the key in the "OFF" position, the shifter position in "PARK" and parking brake applied. Open hood, set hood prop and locate master cylinder reservoir. Remove spring clips and take off lid. Brake fluid level should be at the top of reservoir.

#### 5.1.5 Power Steering Fluid

Check power steering fluid with key in "OFF" position, the shifter position in "PARK" and the parking brake applied. Open hood, set hood prop remove cap from power steering reservoir. Fluid level should be between the arrows on the indicator stick. DO NOT OVERFILL.

5.2 LUBRICATION CHART



Item	Identification	Service	Lubricant
1	Steering Linkage	Lube	EP multipurpose grease
2	Transmission Oil	Check	Dextron III type transmission fluid
3	Engine Oil	Change	15W40 CD OE/HDO (MIL-L-2104)
4	Drive Axles	Check	80-90 gear oil (MIL-L -2105)
5	Power Steering Pump	Check	Automotive power steering fluid
6	Drive Shaft	Lube	EP multipurpose grease
7	Brake Master Cylinder	Check	DOT 3 brake fluid
8	Engine Coolant*	Check	Ethylene glycol/ water (50/50 mix) MIL-A-46153
9	Accelerator & Shifter Cable	Lube	**Summer months WD40 penetrating oil winter months anti freeze

\*Check when engine is at operating temperature

\*\*it is recommended by manufacturer to prolong the life of your accelerator cable that the above lubrication be followed

5.3 RECOMMENDED FILTER GUIDE

\*See Steering Fluid and Fill Procedure

Part Number	Filter Description
129150-35153	Oil Filter
119802-55810	Fuel Filter
129242-55730	Fuel/Water Separator Filter
Fleetguard FS20000	Lubricity Filter
Donaldson P601437	Air Filter
Wix 58705	Transmission Filter and Gasket
SF-6520	Power Steering Filter

\*See Steering Fluid and Fill Procedure



5.4 PREVENTIVE MAINTENANCE SCHEDULE

	<b>Preventive Maintenance Item</b>	Daily	First 50 hrs	Every 250 hrs	Every 500 hrs	Every 1000 hrs or annually †
	Any items found to be deficient during the preventive maintenance review should be repaired or replaced. All fluids found low should be topped off.					
	Perform daily pre-operation checklist (see Operations Manual)	X				
Engine Oil	Change engine oil and replace filter		X	X		
Transmission Oil	Change transmission fluid and replace filter					X
Steering	Change power steering fluid and replace filter					X
	Inspect steering linkage and grease ball joints					X
	Inspect and grease front axle					X
Cooling System	Check coolant level			X		
	Flush coolant					X
	Check and clean radiator fins			X		
	Inspect coolant hoses			X		
	Adjust tension of belts			X		
	Inspect belts			X		
Fuel System	Inspect fuel system for leaks			X		
	Replace fuel filter				X	
	Drain fuel/water separator	X				
	Clean fuel/water separator			X		
	Replace lubricity filter (if equipped)			X		
Air Cleaner	Inspect/replace air cleaner element			X		
Engine Compartment	Lap intake/exhaust valve seats (Contact engine service provider)					X
	Adjust intake/exhaust valve clearance (Contact engine service provider)					X
	Inspect and clean crankcase breather					X
	Inspect, clean, and check injection nozzles					X
Electrical	Inspect electrical wires and connections					X
	Inspect battery cables					X
Throttle	Inspect throttle cable assembly (Tier II only)					X
Brake System	Check brake fluid level			X		
	Inspect/replace front brake pads/rotors					X
	Inspect/replace rear drum brake shoes/linings					X
	Inspect brake lines and hoses					X
Suspension	Re-torque suspension u-bolts, 80 ft-lbs		X			
	Inspect axle shaft u-joints					X
	Grease driveshaft u-joints					X
	Re-torque 3/8-24 spindle nuts, 40 ft-lbs					X
Tires	Rotate tires				X	
	Re-torque lug nuts, 100 ft-lbs					X

† Whichever time period is shorter



5.5 TT4-8 DIESEL SPECIFICATIONS & CAPACITIES

Model.....	YANMAR 4TNV98
Description .....	Vertical in-line diesel, 3.3 Liter, four cylinder, direct injection engine
Number of Cylinders.....	4 in-line
Bore & Stroke.....	3.858 x 4.331 in (98 x 112 mm)
Displacement.....	202,502 cu in (3.319 L)
Compression Ratio.....	17:1 (2.8)
Fuel .....	No. 2 diesel
Alternator.....	55 amp, 12 volt, neg ground
Engine Weight Fully Dressed .....	557 lbs (253 kg) approximately

5.5.1 Battery  
Group 65, 860 Cold Cranking Amps automotive battery

5.5.2 Engine Crankcase Capacities

Engine .....	3.3 L diesel
U.S. Quarts.....	7.5
Imperial Quarts.....	6.3
Liters.....	7.1

5.5.3 Fuel Tank Refill Capacities

U.S. Gallons .....	12.5
Imperial Gallons .....	10.4225
Liters.....	47.375

USA.....SAE (Society Of Automotive Engineers) NO. 2-D, NO. 1-D, ASTM.D975-94  
 JAPAN.....JIS K2204 GRADE NO 2  
 EUROPEAN UNION.....EN590:96  
 INTERNATIONAL.....ISO 8217 DMX  
 UNITED KINGDOM.....BS 2869-AL OR A2  
 KOREA.....KSM-2610  
 CHINA.....GB252

\*Please refer to Yanmar Engine Instruction Manual for further information

5.5.4 Transmission Refill Capacities

Engine .....	3.30 L diesel
U.S. Pints .....	8.00
Imperial Pints.....	6.60
Liters.....	3.80

\* Use Dextron III type transmission fluid or equivalent  
 \*\*Add 9 pints, 7.5 imperial pints or 4.25 liters if torque convertor has been drained

5.5.5 Engine Cooling System Refill Capacities

Engine .....	3.3 L diesel
U.S. Quarts.....	16.00
Imperial Quarts.....	13.30
Liters.....	15.10

\* A 50/50 mixture of glycol and clean water

5.5.6 Brake System  
The brake system is power assisted hydraulic, front disc type and rear drum type. USE DOT 3 BRAKE FLUID.

5.5.7 Steering Fluid And Fill Procedure  
The steering system is power assisted hydrostatic type. Use Either Power Steering Fluid Equivalent Soec For GM 9985010, CHRYSLER MS-5931 or FORD ESW-M2C128-C and D **OR** 10W Mineral Oil.

If the system has been drained for repair or scheduled maintenance, fill steering reservoir to within 2" of maximum fill level. With the key in the OFF position, turn the engine over for 30 seconds using a remote start device to ensure safety. While engaging the remote starter, turn the steering wheel from stop to stop and apply the service brakes. After 30 seconds of engagement, the fluid level will drop, allowing for refilling. Repeat this process for a total of three cycles. Top off power steering fluid to within 2" of top of reservoir or to the center of the sight glass (if applicable). Return to service.



Models: TT-4, TT-5, TT-6, TT-8  
Yanmar Diesel 4TNV98 Engine

5.5.8 Axle Refill Capacities

<b>Axle</b>	<b>U.S Pints</b>	<b>Imperial Pints</b>	<b>Liters</b>
Front Steer-Non Drive	N/A	N/A	N/A
Front Drive	5.20	4.37	2.48
Rear Drive	8.50	7.00	3.75

\* Service refill capacities are determined by filling to the bottom of the filler hole

\*\*Use 80W90 Hypoid gear lubricant

## 5.6 ENGINE FAULT CODES

Should the Yanmar engine have an error, an error message is shown on the screen. Pressing the second display button from the left will provide you with the CAN error viewing screen. This screen shows the relevant fault code, as well as the total number of codes being transmitted. The up and down arrows can be used to scroll through current broadcast codes and the exit button can be used to return to the main run screen. Note that most codes will be cleared when tractor is shut down. It is important to record errors while they are active.

SPN	FMI	DESCRIPTION
29	0	Accelerator Pedal Position Sensor "B" : Above normal operation range
29	1	Accelerator Pedal Position Sensor "B" : Below normal operation range
29	2	Accelerator Pedal Position Sensor "B" : Intermittent fault
29	3	Accelerator Pedal Position Sensor "B" : Shorted to high source
29	4	Accelerator Pedal Position Sensor "B" : Shorted to low source
29	8	Accelerator Pedal Position Sensor "B" : Communication Fault
29	15	Accelerator Pedal Position Sensor "B" : Not Available
91	0	Accelerator Pedal Position Sensor "A" : Above normal operation range
91	1	Accelerator Pedal Position Sensor "A" : Below normal operation range
91	2	Accelerator Pedal Position Sensor "A" : Intermittent fault
91	3	Accelerator Pedal Position Sensor "A" : Shorted to high source
91	4	Accelerator Pedal Position Sensor "A" : Shorted to low source
91	15	Accelerator Pedal Position Sensor "A" : Not Available
100	1	Oil Pressure : Too Low
100	4	Oil Pressure Switch : Shorted to low source
108	2	Barometric Pressure Sensor: Intermittent fault
108	3	Barometric Pressure Sensor: Shorted to high source
108	4	Barometric Pressure Sensor : Shorted to low source
110	0	Engine Coolant Temperature: Too High
110	2	Engine Coolant Temperature Sensor: Intermittent fault
110	3	Engine Coolant Temperature Sensor: Shorted to high source
110	4	Engine Coolant Temperature Sensor: Shorted to low source
158	0	System Voltage : Too High
158	1	System Voltage: Too Low
167	1	Charge Warning
167	4	Battery Charge Switch : Shorted to low source
190	0	Engine speed : Over speed condition
628	2	E-ECU internal fault: FlashROM Check Sum Error (Data Set 1)
628	2	E-ECU internal fault : FlashROM Check Sum Error (Data Set 2)
628	12	E-ECU internal fault : FlashROM Check Sum Error (Main Software)
630	2	E-ECU internal fault: EEPROM Error
630	12	E-ECU internal fault : EEPROM ReadWrite fault
638	2	Engine : Malfunction
638	3	Engine Fuel Rack Actuator: Shorted to high source
638	4	Engine Fuel Rack Actuator: Shorted to low source
638	7	Engine Fuel Rack Actuator: Mechanical Malfunction
639	12	High Speed CAN Communication : Communication fault

5.6 ENGINE FAULT CODES (continued)

SPN	FMI	DESCRIPTION
1078	4	Engine Fuel Injection Pump Speed Sensor: Shorted to low source
1079	2	Sensor 5V: Intermittent Fault
1079	3	Sensor 5V: Shorted to high source
1079	4	Sensor 5V: Shorted to low source
1136	0	E-ECU Internal Temperature : Too High
1136	2	E-ECU Internal Temperature Sensor: Intermittent Fault
1136	3	E-ECU Internal Temperature Sensor: Shorted to high source
1136	4	E-ECU Internal Temperature Sensor: Shorted to low source
1202	2	Immobilizer : System Fault
1210	3	Engine Fuel Rack Position Sensor: Shorted to high source
1210	4	Engine Fuel Rack Position Sensor: Shorted to low source
1485	4	E-ECU Main Relay : Shorted to low source
522241	2	Engine Fuel Rack Actuator Relay : Intermittent fault
522241	3	Engine Fuel Rack Actuator Relay : Circuit fault B
522241	4	Engine Fuel Rack Actuator Relay : Circuit fault A
522241	7	(Reserved)
522242	2	Cold Start Device : Intermittent fault
522242	3	Cold Start Device : Circuit fault B
522242	4	Cold Start Device : Circuit fault A
522243	2	Air Heater Relay : Intermittent fault
522243	3	Air Heater Relay : Circuit fault B.
522243	4	Air Heater Relay : Circuit fault A
522251	3	EGR Stepping Motor "A" : Circuit fault B
522251	4	EGR Stepping Motor "A" : Circuit fault A
522252	3	EGR Stepping Motor "B" : Circuit fault B
522252	4	EGR Stepping Motor "B" : Circuit fault A
522253	3	EGR Stepping Motor "C" : Circuit fault B
522253	4	EGR Stepping Motor "C" : Circuit fault A
522254	3	EGR Stepping Motor "D" : Circuit fault B
522254	4	EGR Stepping Motor "D" : Circuit fault A
522314	0	Engine Coolant Temperature :Abnormal temperature
522323	0	Air Cleaner: Mechanical Malfunction
522329	0	Oily Water Separator: Mechanical Malfunction
522402	4	Aux. Speed Sensor: Shorted to low source
522727	12	E-ECU internal fault : Sub-CPU Error A
522727	12	E-ECU internal fault : Sub-CPU Error B
522727	12	E-ECU internal fault : Sub-CPU Error C
522728	12	E-ECU internal fault : Engine Map Data Version Error
522730	8	Immobilizer: Pulse Communication Fault
522730	12	Immobilizer : CAN Communication Fault



5.7 RECOMMENDED TT4-12 TOOL LIST

1. Screwdrivers  
Philips #1, #2 4" long  
Slotted 1/8 X 4, 3/16 X 4, 1/4 X 6, 5/16 X 8
2. Torx  
T25, T27, T30, T40
3. Nut Drivers  
1/4", 5/16", 3/8"
4. Allen Wrench  
7/64, 1/8, 5/32, 3/16, 7/32, 1/4, 5/16, 3/8
5. Adjustable Wrench  
8" & 10"
6. Metric Combination Wrenches  
8MM, 10MM, 12MM, 13MM, 14MM, 15MM, 16MM, 17MM, 18MM, 19MM, 20MM, 21MM
7. Standard Combination Wrenches  
1/4, 5/16, 11/32, 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1 1/8
8. 3/8 Drive Deep Standard Sockets  
3/8, 7/16, 1/2, 9/16
9. 1/2 Drive Deep Standard Sockets  
9/16, 3/4, 15/16, 1 1/8
10. 3/8 Drive Standard Sockets  
5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4
11. 3/8 Drive Metric Sockets  
7, 8, 9, 10, 11, 12, 13, 14, 15, 16
12. 1/2 Drive Metric Sockets  
16, 17, 18, 19, 20, 21, 22, 23, 24
13. 1/2 Drive Standard Sockets  
9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1, 1 1/8
14. Swivel Universal  
1/2, 3/8 Drives
15. Extension 3/8 Drive  
3, 6, 10 inch
16. Extension 1/2 Drive  
3, 6, 10 inch
17. OTC 7157
18. OTC 7080
19. OTC 1902
20. 12 volt test light
21. Torque Wrench  
25-250 Foot Pounds
22. 7 inch diagonal pliers
23. 8 inch long nose pliers
24. 6 3/4 inch slip joint pliers
25. 9 1/2 inch arc joint pliers
26. Multimeter
27. Pickle Fork
28. Snap wring pliers
29. Ball Peen Hammer 32 oz
30. Oil Filter wrench  
2 3/4 inch to 3 3/4 inch in diameter
31. Grease gun with 20" flex hose
32. Oil pan drain
33. Funnel

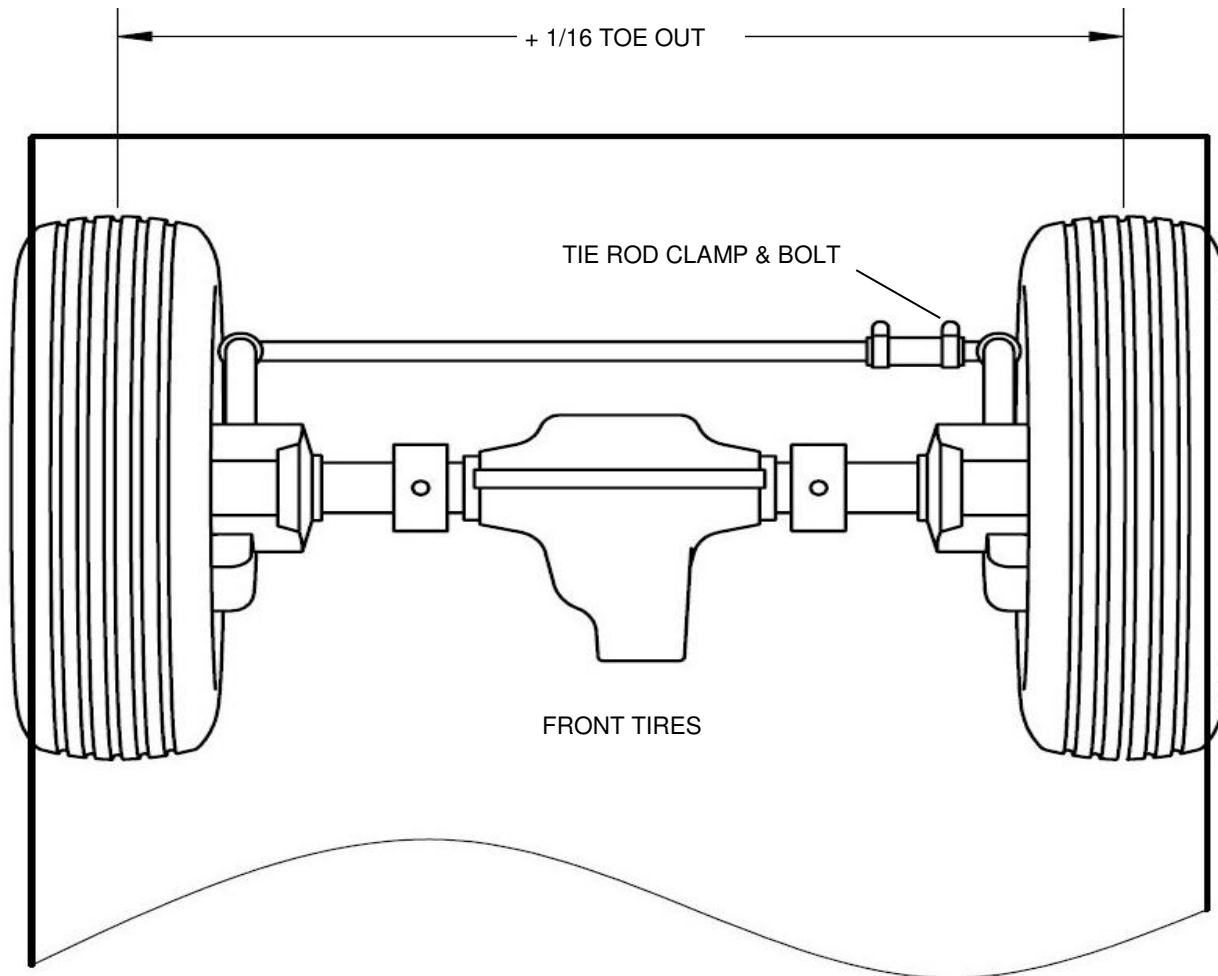
**NOTE: Eagle Tugs does not sell tools. Please refer to you local tool supplier to purchase any of the above recommended tools**

5.8 TIPS FOR INCREASED ALL WEATHER TRACTION DURING AIRCRAFT PUSHBACK

1. Reduce air pressure in pneumatic tires from standard operating pressure to as low as 25 PSI. (\*\*restore air pressure to pressure listed on sidewall as soon as weather emergency ends).
  2. When pushing with All Wheel Drive tractors, make sure the tow bar is level or slightly downhill toward tractor.
  3. When towing with Rear Wheel Drive-raise hitch height.
  4. When pushing with Rear Wheel Drive-lower hitch height.
- Note: These strategies (2, 3 and 4) maximize all weather traction.**
5. On ice or snow use chains or cables. If the use of chains is prohibited, there are traction cables that serve the same function as chains but are much easier to mount and are very kind in terms of abrasion to all surfaces.
  6. Keep fuel tank full, as much as possible.
  7. Consult with Eagle Tugs factory for additional assistance.

5.9 FRONT END ALIGNMENT PROCEDURE

1. Find center line of tire front and back
2. Check with tape measure to see difference
3. The front should be 1/16 inch more than the rear
4. 1/16 inch toe out, if less or greater loosen the two bolts on the tie rod clamp
5. Turn clamp in or out to achieve desired setting—1/16 in toe out
6. Retighten two bolts on the tie rod clamp





5.10 DANA FRONT AXLE MAINTENANCE

5.10.1 Dana 44 Front Axle Disassembly Procedure

Please refer to the steps below for proper adjustment procedure.

**Note: Please refer to the attached picture of the Dana 44 axle for number reference.**

Disassembly Procedure:

- Step 1: Lift the tug so that both of the front tires are off the ground and make sure the unit is secured properly.
- Step 2: Remove both front wheels.
- Step 3: Remove both front calipers leaving the brake hose intact.
- Step 4: Remove both of the hub center caps.
- Step 5: Use lock ring pliers to remove both lock rings on the left and right side of the tug. (#62)
- Step 6: Remove the Gear (#69), spindle (#70) and spring retainer (#71) on both sides.
- Step 7: Use socket #OTC 7157 to remove the locking nut. (#59)
- Step 8: Remove the locking ring. (#58)
- Step 9: Remove the spindle nut.
- Step 10: Slide the rotor & hub assembly off the spindle leaving the bearings inside the hub.
- Step 11: Inspect the 6 3/8-24 stover lock nuts using a 9/16 socket

5.10.2 Reassembly Procedure If the Backing Plate & Spindle Were Removed:

- Step 1: Install the backing plate with the chamfer facing the spindle.
- Note: Be sure the backing plate is aligned in the correct position as it was before it was removed.**
- Step 2: Tighten the 6 new 3/8-24 stover lock nuts to 40ft lbs.
- Step 3: Install the rotor & hub assembly making sure the bearing does not fall out.
- Step 4: Install the spindle nut with the dowel facing toward you. Tighten to 35ft lbs to seat the bearings while spinning the rotor.
- Step 5: Loosen the spindle nut and re-snug.
- Step 6: Install the lock ring making sure the hole in the ring lines up with the dowel on the nut. If it does not, rotate the nut so the dowel is aligned.
- Step 7: Install the lock nut and torque to 50ft lbs.
- Step 8: Install the spring seat with the flat part facing toward you.
- Step 9: Install the spring, the gear and the clip.
- Step 10: Apply a small amount of RTV sealant to the cap and install.
- Step 11: Install the caliper.
- Step 12: Install the tires and lug nuts and torque the nuts to 100ft lbs.

6.0 PROVISION OF SPARES

6.1 SOURCE OF SPARE PARTS

Spare parts may be obtained from the manufacturer:

<b>Eagle Tugs</b>	Telephone: (419) 866-6301 or 800-426-6301
1 Air Cargo Pkwy East	Fax: 419) 867-0634
Swanton, Ohio 43558 USA	E-mail: parts@eagletugs.com
	Website: www.eagletugs.com

6.2 RECOMMENDED SPARE PARTS LISTS

Reference the following page(s) for Replacement Parts and Kits available.

**NOTE: Please check our website periodically for manual updates as well as service bulletins.**

6.3 IDENTIFICATION KEY

The following abbreviations are used throughout the parts lists in this section.

Abbreviation	Meaning	Purpose
NL	Not Listed	Part required but not shown on diagram
NPN	No Part Number	Parts shown and numbered, but not stocked and sold by Eagle. Typically used for bolts, clamps, etc
AR	As Required	

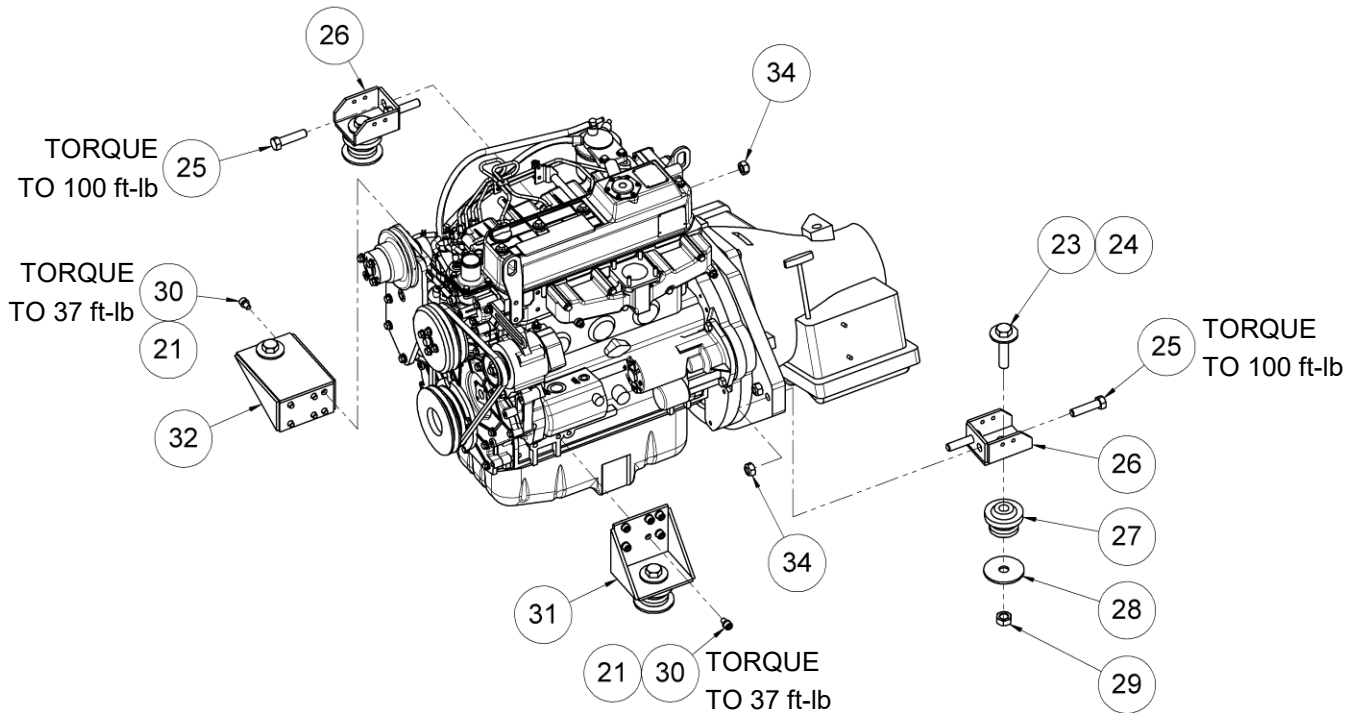
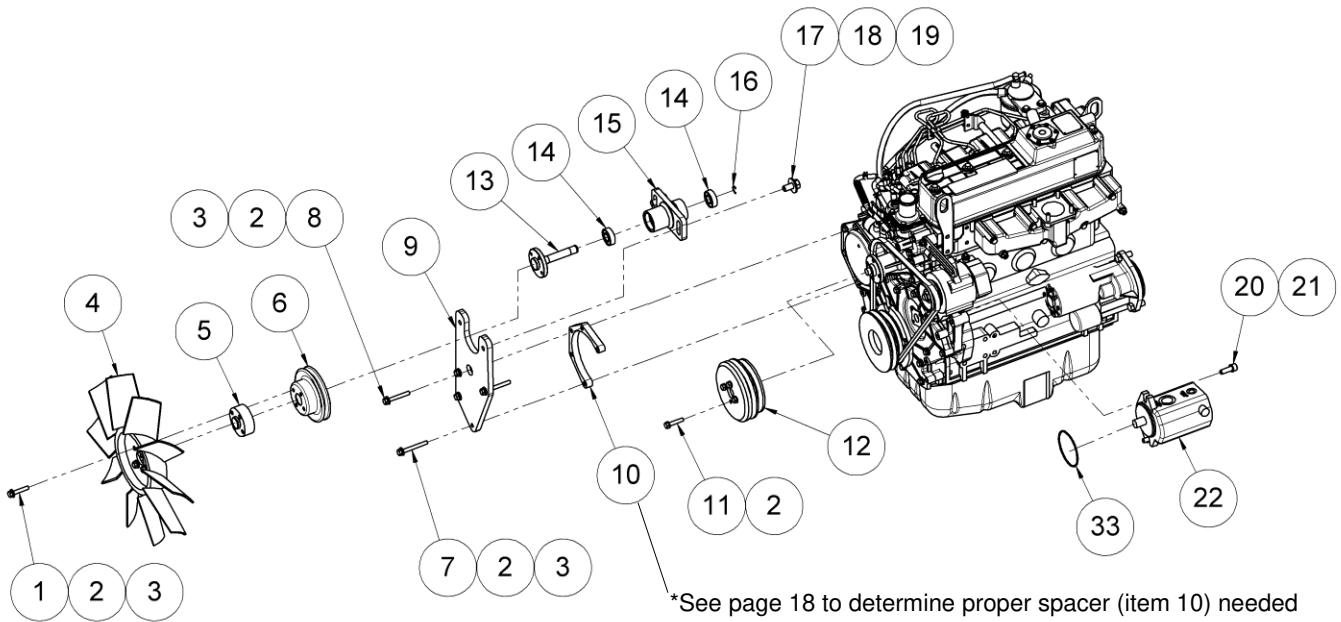


Models: TT-4, TT-5, TT-6, TT-8  
Yanmar Diesel 4TNV98 Engine

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7.0 POWER TRAIN

7.1 ENGINE DRESS - FAN ASSEMBLY, PRINCE PUMP, AND MOTOR MOUNTS





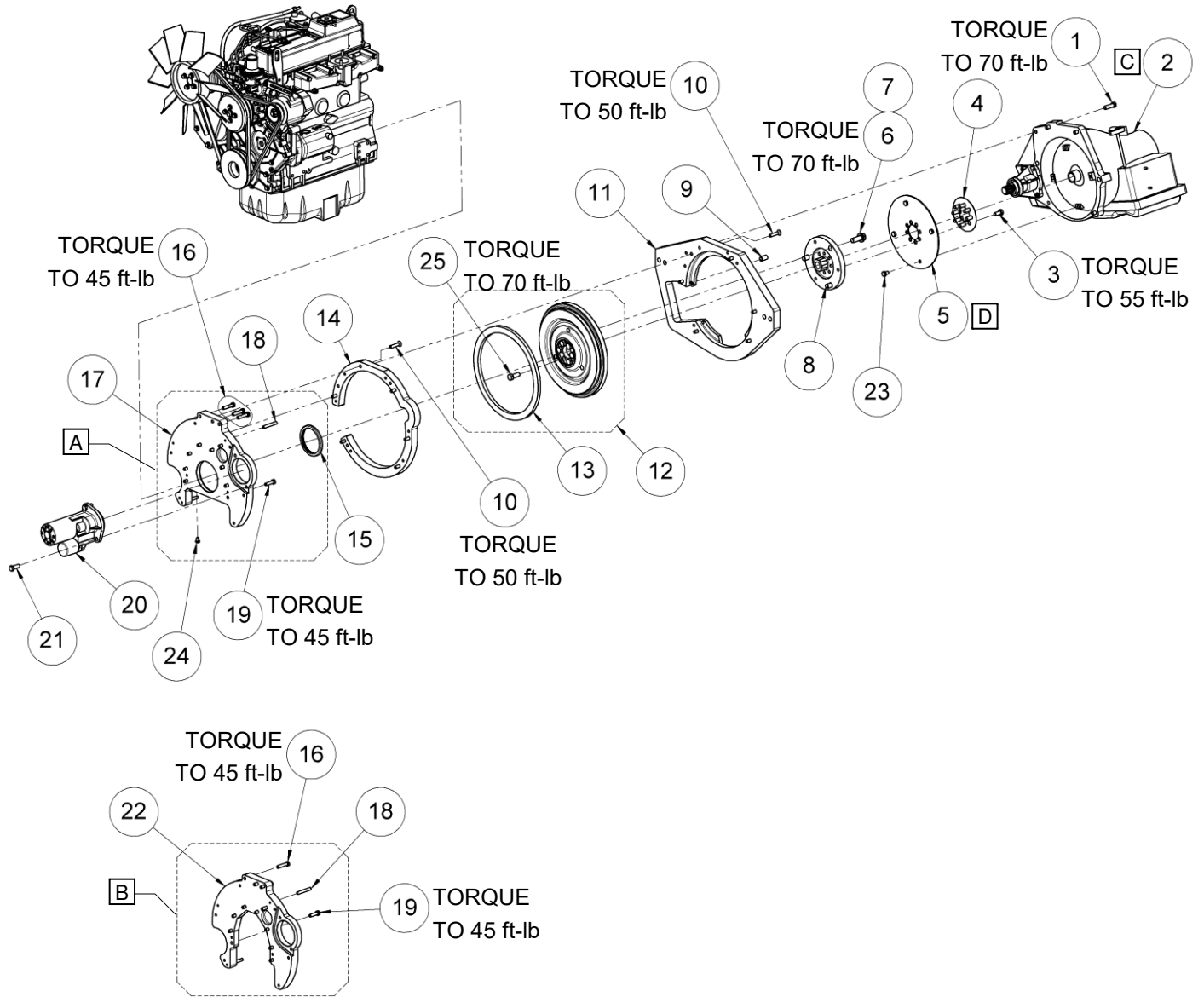
7.1 ENGINE DRESS - FAN ASSEMBLY, PRINCE PUMP, AND MOTOR MOUNTS

**Parts List**

When ordering replacement parts/kits, please specify model and serial number your unit.

Item	Part Number	Description	Qty
1	NPN	HCS, M8X1.25 X 45	4
2	NPN	LOCK WASHER, M8	12
3	NPN	FLAT WASHER, 1/4	9
4	A-TT8-00312	FAN	1
5	A-TT8-00360	FAN SPACER	1
6	129900-42450	PULLEY (INCLUDED WITH ENGINE)	1
7	NPN	HCS, M8X1.25 X 70	4
8	NPN	HCS, M8X1.25 X 60	1
9	A-TT8-00354	REMOTE FAN BRACKET	1
10	NPN	FAN BRACKET SPACER (SEE PG. 20)	1
11	NPN	HCS, M8X1.25 X 40	4
12	A-TT8-00353	WATER PUMP SHEAVE	1
13	A-TT8-00356	REMOTE FAN SHAFT	1
14	A-TT8-00357	REMOTE FAN BEARING	2
15	A-TT8-00355	REMOTE FAN SHAFT HOUSING	1
16	A-TT8-00358	REMOTE FAN SNAP RING	1
17	NPN	HCS, 1/2-13 UNC X 1.25	2
18	NPN	FLAT WASHER, 1/2	2
19	NPN	LOCK WASHER, 1/2	2
20	NPN	SHCS, M10X1.5 X 30	2
21	NPN	LOCK WASHER, 3/8	14
22	SP20PB11L145H9L	PRINCE PUMP	1
23	NPN	HCS, 3/4-10 UNC X 3.5	4
24	NPN	FLAT WASHER, 3/4	4
25	NPN	HCS, 5/8-11 UNC X 2.5, GR 8, ZN PLATED	4
26	A-TT4-00011	ENGINE MOUNT TRANS PLATE	2
27	A-TT5D-00013-1	ISOLATOR	4
28	A-TT5D-00010	LORD WASHER	4
29	NPN	LOCK NUT, 3/4-10 UNC	4
30	NPN	SHCS, M10X1.5 X 25, GR 10.9	12
31	A-TT4-00012	MOTOR MOUNT - B	1
32	A-TT4-00013	MOTOR MOUNT - A	1
33	24321-000850	PTO GASKET (INCLUDED WITH ENGINE)	1
34	NPN	LOCK NUT, 5/8-11 UNC	4

7.2 ENGINE DRESS - TRANSMISSION





7.2 ENGINE DRESS - TRANSMISSION

**Parts List**

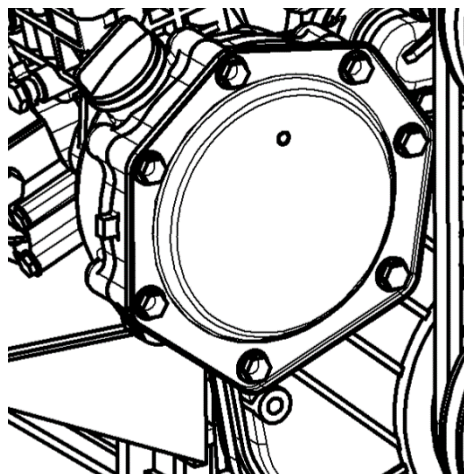
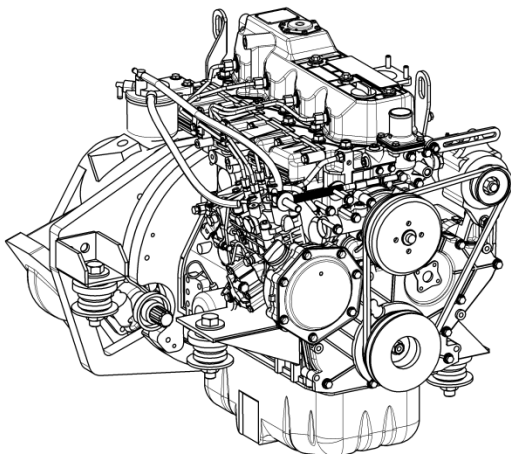
When ordering replacement parts/kits, please specify model and serial number your unit.

Item	Part Number	Description	Qty
1	NPN	SHCS, M12X1.75 X 40, GR 10.9	4
2	TT08-54-003-KA	TRANSMISSION - AWD	1
3A	TT08-54-005-KA	TRANSMISSION - 2WD	1
3B	NPN	HCS, M12X1.75 X 25, GR 10.9, ZN PLATED	8
4	TM27C00305-ID	FLEX PLATE WASHER	1
5	B-TT10TD-00016-ID	FLEX PLATE	1
6	NPN	HCS, M16X2.0 X 45	3
7	NPN	LOCK WASHER, M16	3
8	B-TT5D-00017-4TNV	FLEX PLATE ADAPTER	1
9	5240849	TRANS DOWEL PIN	2
10	NPN	FHCS, M10X1.50 X 45, GR 10.9	12
11	B-TT10TD-00001-4TNV	TRANS PLATE	1
12	129953-21570	FLY WHEEL ASSEMBLY (CONTAINS ITEM 13)	1
13	129900-21600	RING GEAR (INCLUDED IN ITEM 12)	1
14	B-TT10TD-00002	TRANS PLATE SPACER	1
15	129916-01790	OIL SEAL	1
16	NPN	HCS, M10X1.5 X 45, GR 10.9, ZN PLATED	3
17	TMD27B00521-4TNV	ENGINE PLATE	1
18	41HN28	ADJ PLATE DOWEL PIN, 3/8 X 2.5	3
19	NPN	HCS, M10X1.5 X 35, GR 10.9, ZN PLATED	9
20	129940-77010	STARTER	1
21	NPN	HCS, M12X1.75 X 25	2
22	TMD27B00521-T3SPEC	ENGINE PLATE	1
23	NPN	HCS, M10X1.5 X 12	4
24	NPN	HCS, M8X1.25 X 12	6
25	121850-21130	HCS, M14X1.5 X 35 (INCLUDED WITH ENGINE)	6

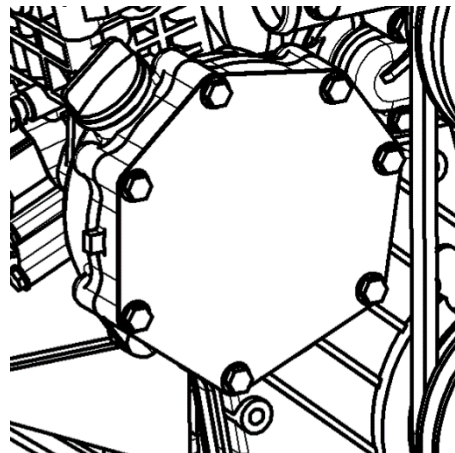
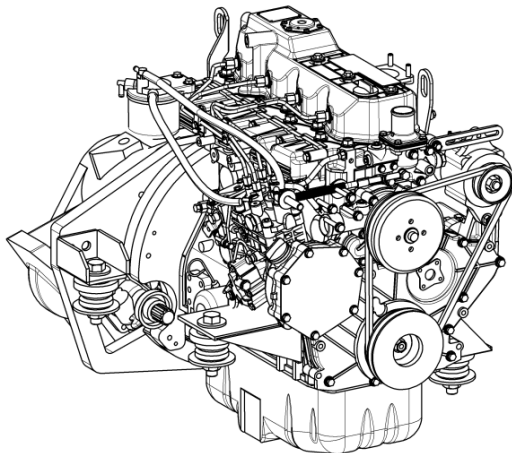
### 7.3 CHOOSING THE CORRECT FAN BRACKET SPACER

The fan bracket spacer shown above comes in two different versions. Version A-TT8-00361 is .625" thick. Version A-TT8-00363 is .50" thick. Using this guide will make determining which version you need very easy.

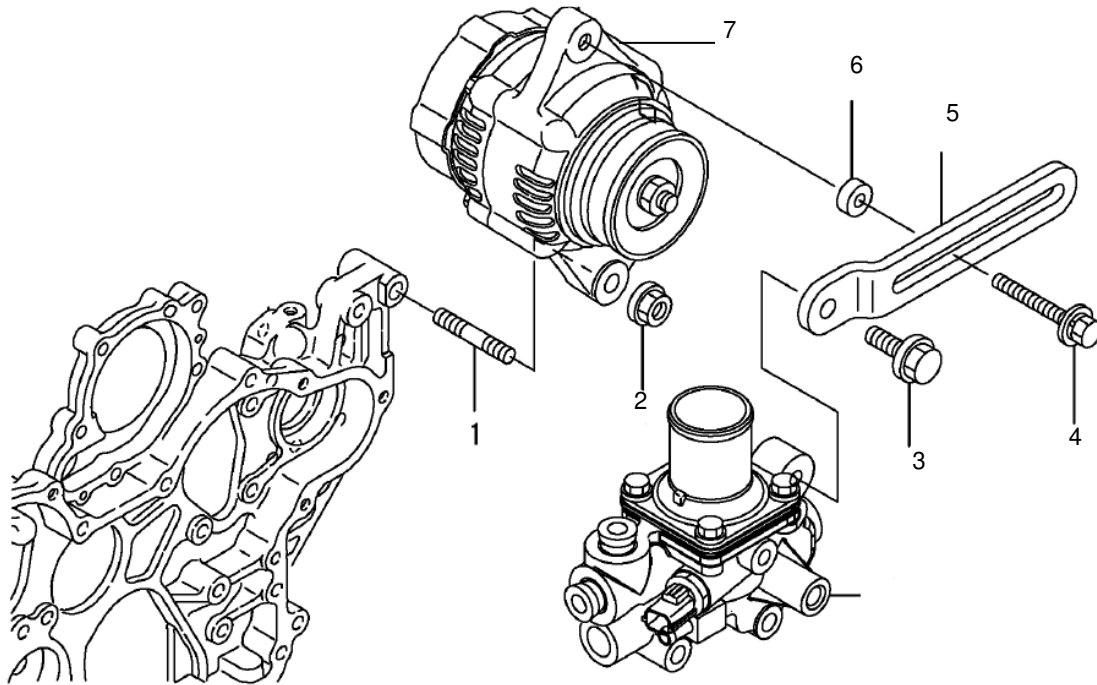
**Version A-TT8-00361:** This part should be used if the cover circled below is a stamped part with a dome in the center and a ridge around the outside as shown:



**Version A-TT8-00363:** This part should be used if the cover circled below is a flat sheet as shown:



7.4 55 AND 80 AMP ALTERNATOR ASSEMBLY



**Parts List**

When ordering replacement parts/kits, please specify model and serial number your unit.

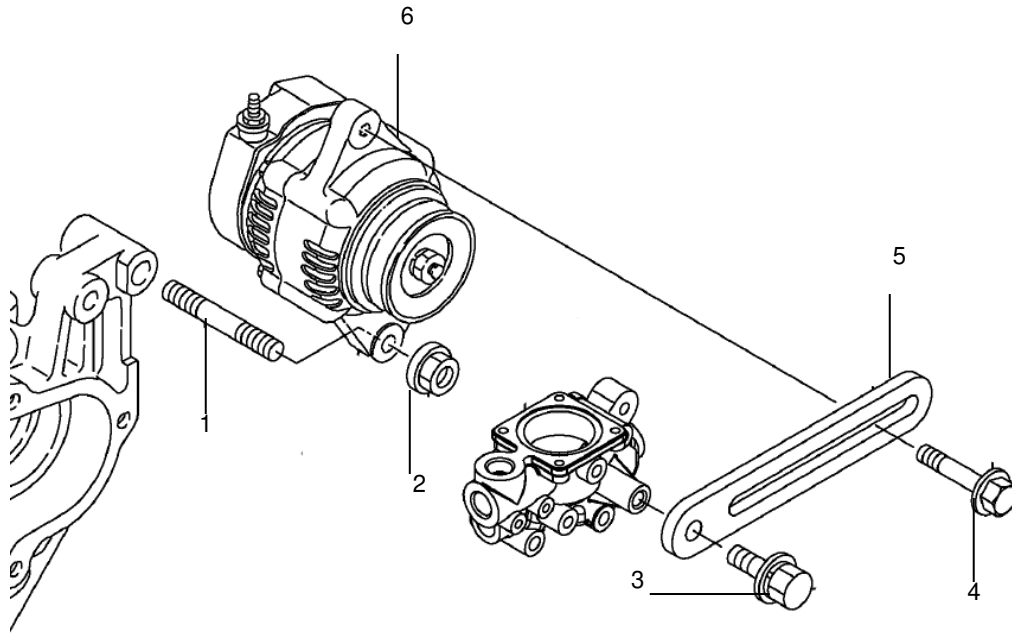
Item	Part Number	Description	Qty
1	129795-01900	STUD, ALTERNATOR 55 AMP ALT	1
	26116-101202	STUD, ALTERNATOR 80 AMP ALT	1
2	26306-100002	NUT, ALTERNATOR 55 AMP ALT	2
	26366-100002	NUT, ALTERNATOR 80 AMP ALT	2
3	26106-080222	BOLT, M8 X 22 PLATED 55 AMP ALT	1
	26014-080252	STUD 80 AMP ALT	2
4	129972-77341	BOLT, ADJUSTING	1
5	129972-77330	ADJUSTER BRACKET 55 AMP ALT	1
	129900-77330 or 129900-77330-MOD	ADJUSTER BRACKET 80 AMP ALT	1
6	119940-77270	SPACER 55 AMP ALT (RED ID TAG)	1
	129470-77340	SPACER 80 AMP ALT	1
7	119626-77210	ALTERNATOR 55 AMP	1
	129908-77200	ALTERNATOR 80 AMP	1
8	25132-004200	ALTERNATOR BELT NOT SHOWN	1

\*\*55 AMP ALTERNATORS 10-07 THRU 1-08

\*\*80 AMP ALTERNATORS THERE AFTER

\*\*TRANSIT PRO MODELS MAY BE EQUIPPED WITH AN OPTIONAL 105 AMP ALTERNATOR

7.5 40 AMP ALTERNATOR ASSEMBLY

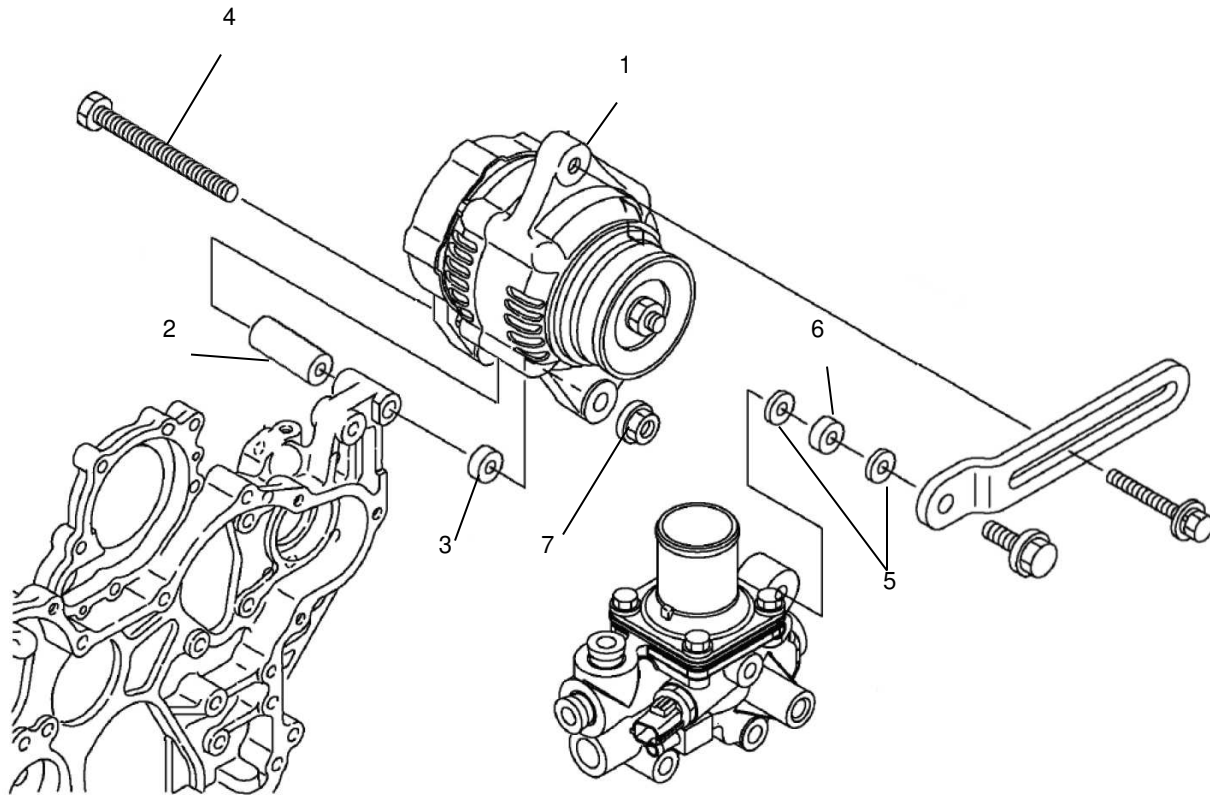


**Parts List**

When ordering replacement parts/kits, please specify model and serial number your unit.

Item	Part Number	Description	Qty
1	129795-01900	STUD, ALTERNATOR	1
2	26306-100002	NUT, ALTERNATOR	2
3	26014-080252	BOLT, M8 X 25 PLATED	1
4	119810-77340	BOLT, ADJUSTING	1
5	129900-77330	ADJUSTER BRACKET, ALTERNATOR 40 AMP	1
6	129423-77200	ALTERNATOR 40 AMP (BLUE ID TAG)	1
10	129211-77920	TIMER	1
11	25132-004150	ALTERNATOR BELT NOT SHOWN	1

7.6 105 AMP high output ALTERNATOR ASSEMBLY (INSTALLED ON SOME UNITS PRIOR TO APRIL, 2015)

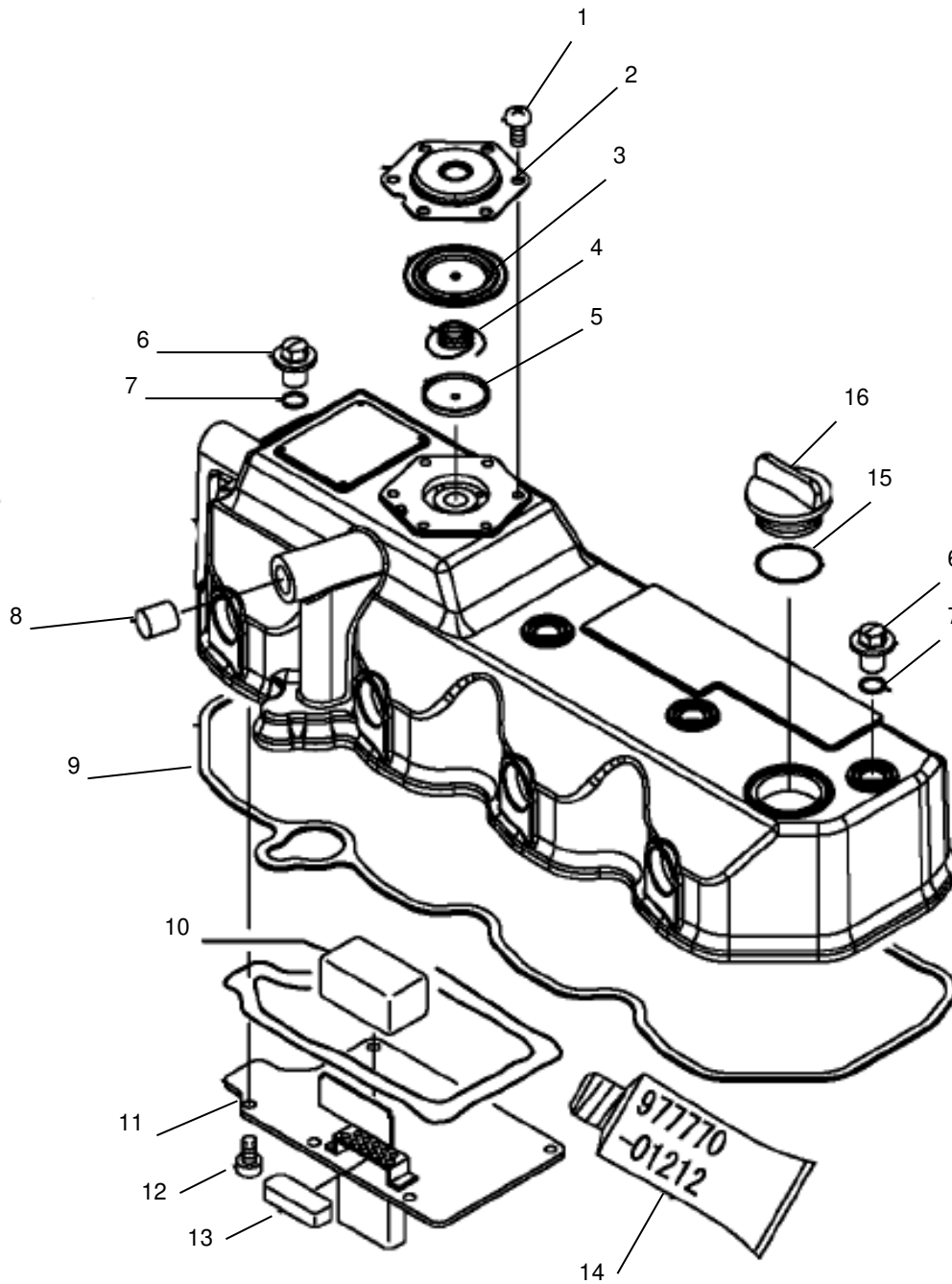


**Parts List**

When ordering replacement parts/kits, please specify model and serial number your unit.

Item	Part Number	Description	Qty
1	AE-OPT-0021	105A ALTERNATOR	1
2	NPN	1.40 SPACER	1
3	NPN	.23 SPACER	1
4	NPN	M10-1.5 x 130	1
5	NPN	5/16 FLAT WASHER	2
6	119940-77270	SPACER	1
7	26306-100002	M10-1.5 LOCK NUT	1
8	9440	ALTERNATOR BELT (NOT SHOWN)	1

7.7 HEAD COVER ASSEMBLY





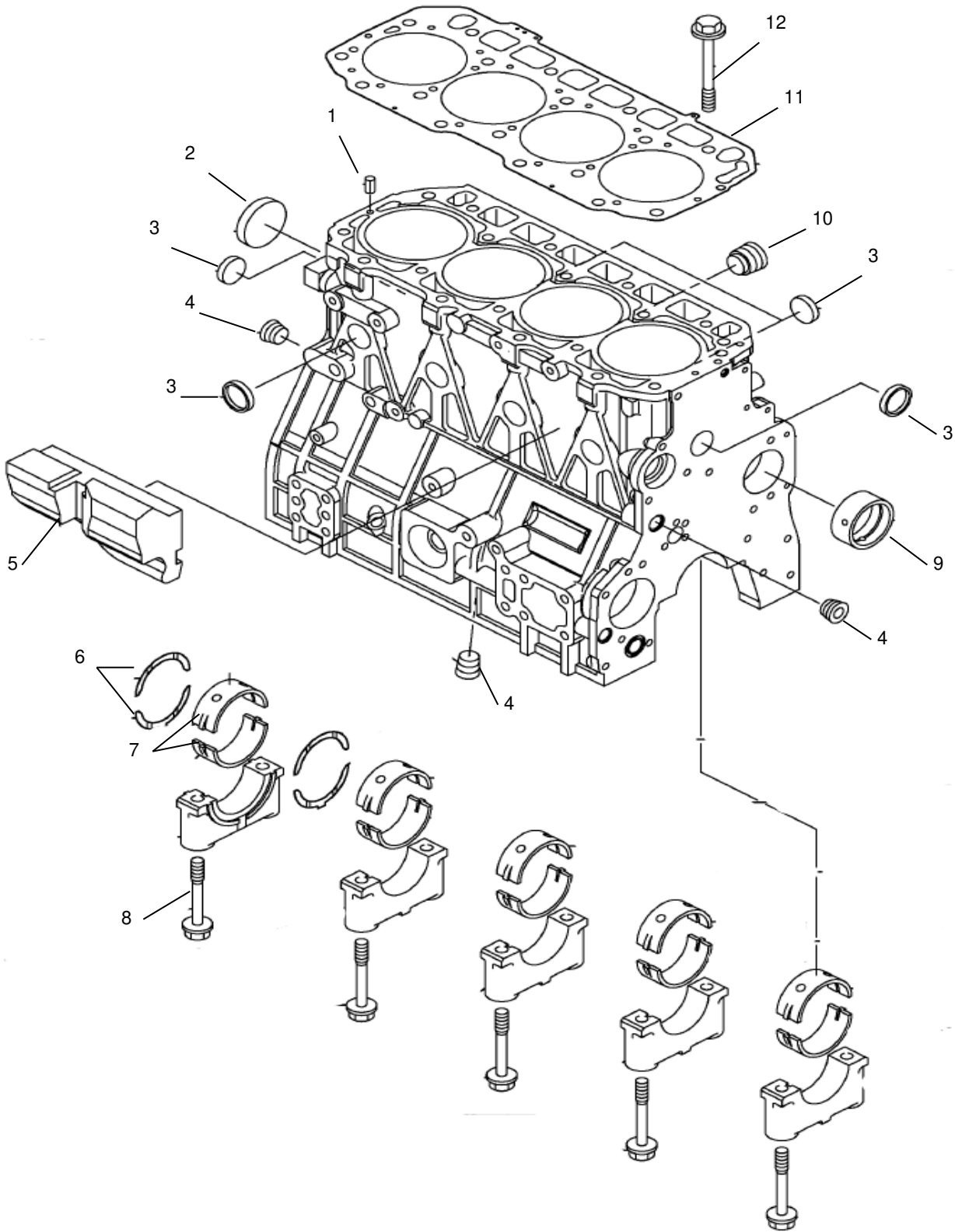
7.7 HEAD COVER ASSEMBLY

**Parts List**

When ordering replacement parts/kits, please specify model and serial number your unit.

Item	Part Number	Description	Qty
6	124160-11360	KNOB	4
7	24311-000120	O-RING 1A P12.0	4
14	977770-01212	GASKET, LIQUID	1
15	24311-000320	O-RING 1A P32.0	1
16	124160-01751	OIL FILLER CAP	1
17	<b>129907-11320</b>	<b>HEAD COVER ASSEMBLY</b> ; consists of:	6
1	22857-500100	SCREW 5 X 10 TAPIING	6
2	123907-03120	PLATE, BREATHER	1
3	123907-03100	DIAPHRAM, BREATHER	1
4	123907-03140	SPRING, DIAPHRAM	1
5	123907-03110	CENTER PLATE	1
8	119640-61400	PLUG	1
9	129907-11310	HEAD COVER GASKET	1
10	129907-03070	BAFFLE	1
11	129907-03010	BAFFLE PLATE	1
12	22857-500100	SCREW 5 X 10 TAPIING	6
13	129907-03060	BAFFLE	1

7.8 CYLINDER BLOCK ASSEMBLY – TIER II





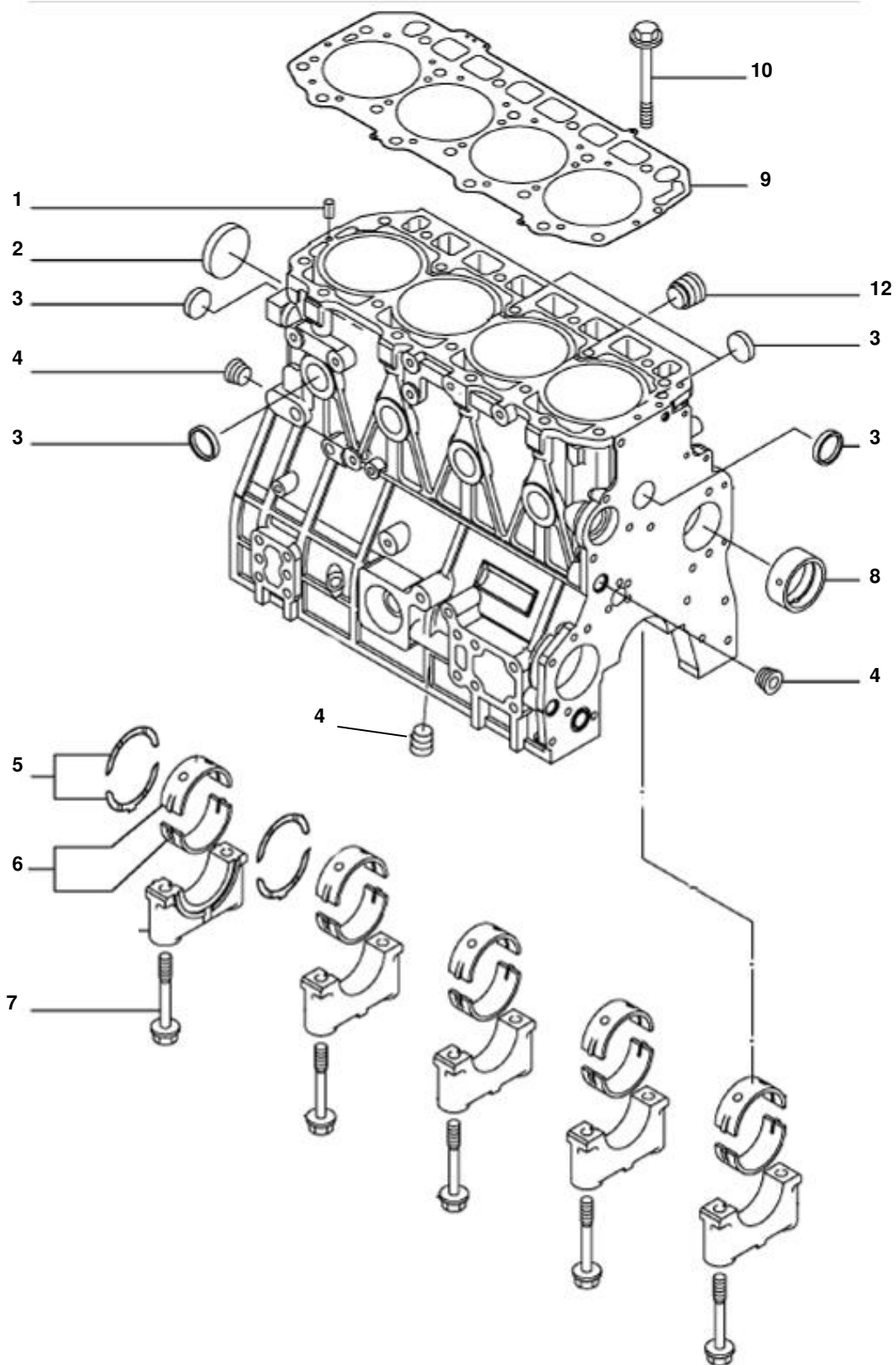
7.8 CYLINDER BLOCK ASSEMBLY – TIER II

**Parts List**

When ordering replacement parts/kits, please specify model and serial number your unit.

Item	Part Number	Description	Qty
1	22351-060012	SPRING PIN 6 X 12	2
2	129900-01250	PLUG 55	1
3	27241-300000	PLUG 30	8
4	23876-030000	PLUG PT 3/8 SCREW	3
5	129907-01190	SPACER	1
6	129900-02930	BEARING ASSY, THRUST	2
	129900-02940	BEARING ASSY, THRUST O/S=.025	2
7	729900-02800	MAIN BEARING SET	5
	129900-02340	MAIN BEARING SET O/S=.025	5
8	129900-02020	BOLT, METAL CAP	10
9	129900-02410	BUSH, CAMSHAFT	1
10A	171015-77900	ENGINE BLOCK HEATER - 120V	1
10B	171015-77910	ENGINE BLOCK HEATER CORD	1
11	129907-01331	CYLINDER HEAD GASKET	1
12	129900-01200	BOLT, HEAD	18
13	729907-01560	CYLINDER BLOCK ASSY, INC ITEMS 1-10	1

7.9 CYLINDER BLOCK ASSEMBLY – TIER III





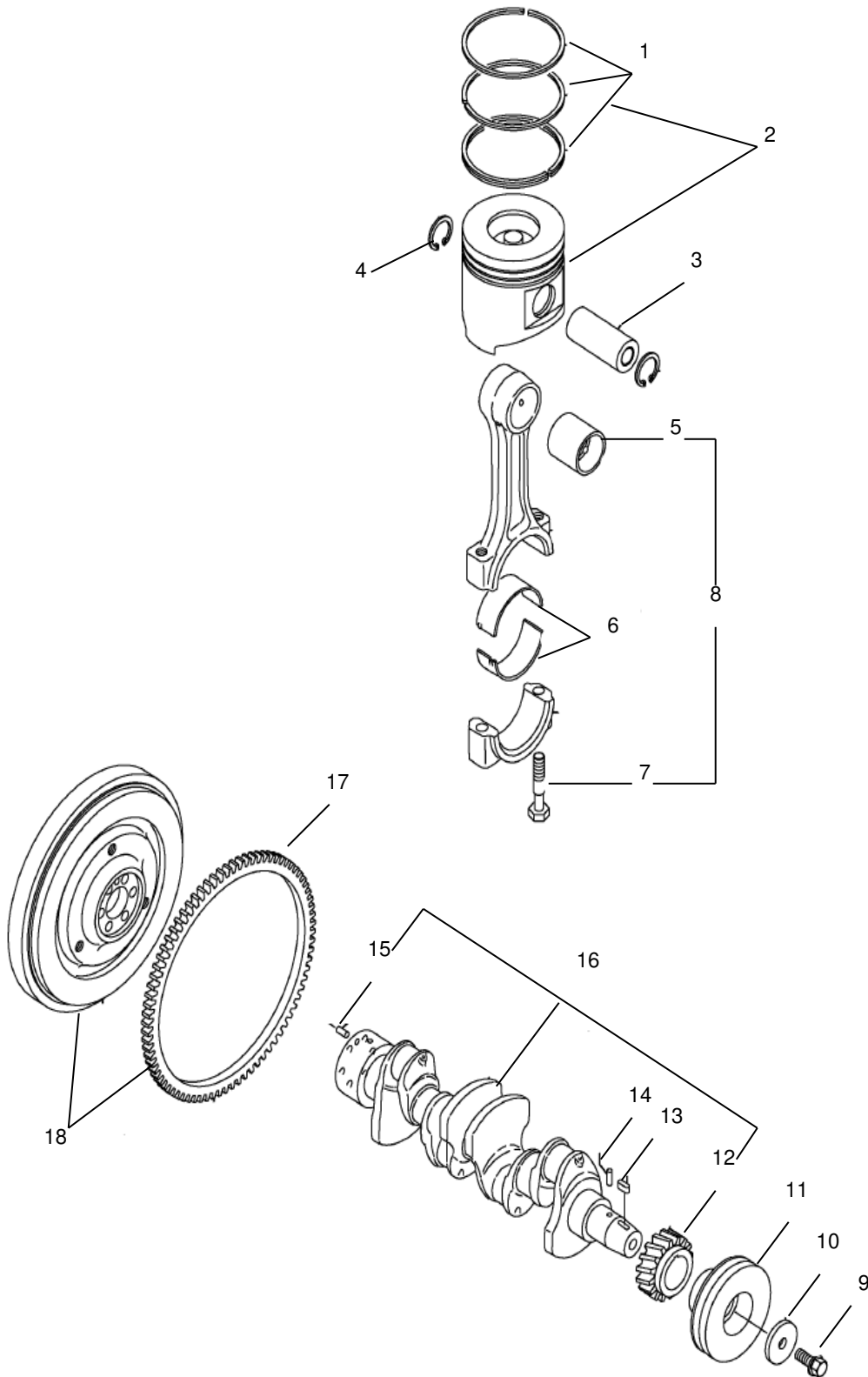
7.9 CYLINDER BLOCK ASSEMBLY – TIER III

**Parts List**

When ordering replacement parts/kits, please specify model and serial number your unit.

Item	Part Number	Description	Qty
1	22351-060012	SPRING PIN 6 X 12	2
2	129900-01250	PLUG 55	1
3	27241-300000	PLUG 30	8
4	23876-030000	PLUG PT 3/8 SCREW	3
5	129900-02931	BEARING ASSY, THRUST	2
	129900-02941	BEARING ASSY, THRUST O/S=.025	2
6	729900-02801	MAIN BEARING SET	5
	129900-02341	MAIN BEARING SET O/S=.025	5
7	129900-02020	BOLT, METAL CAP	10
8	129900-02410	BUSH, CAMSHAFT	1
9	129907-01331	CYLINDER HEAD GASKET	1
10	129900-01200	BOLT, HEAD	18
11	729927-01560	CYLINDER BLOCK ASSY, INC ITEMS 1-10	1
12A	171051-77900	ENGINE BLOCK HEATER - 120V	1
12B	171051-77910	ENGINE BLOCK HEATER CORD	1

7.10 CRANKSHAFT & PISTON – TIER II





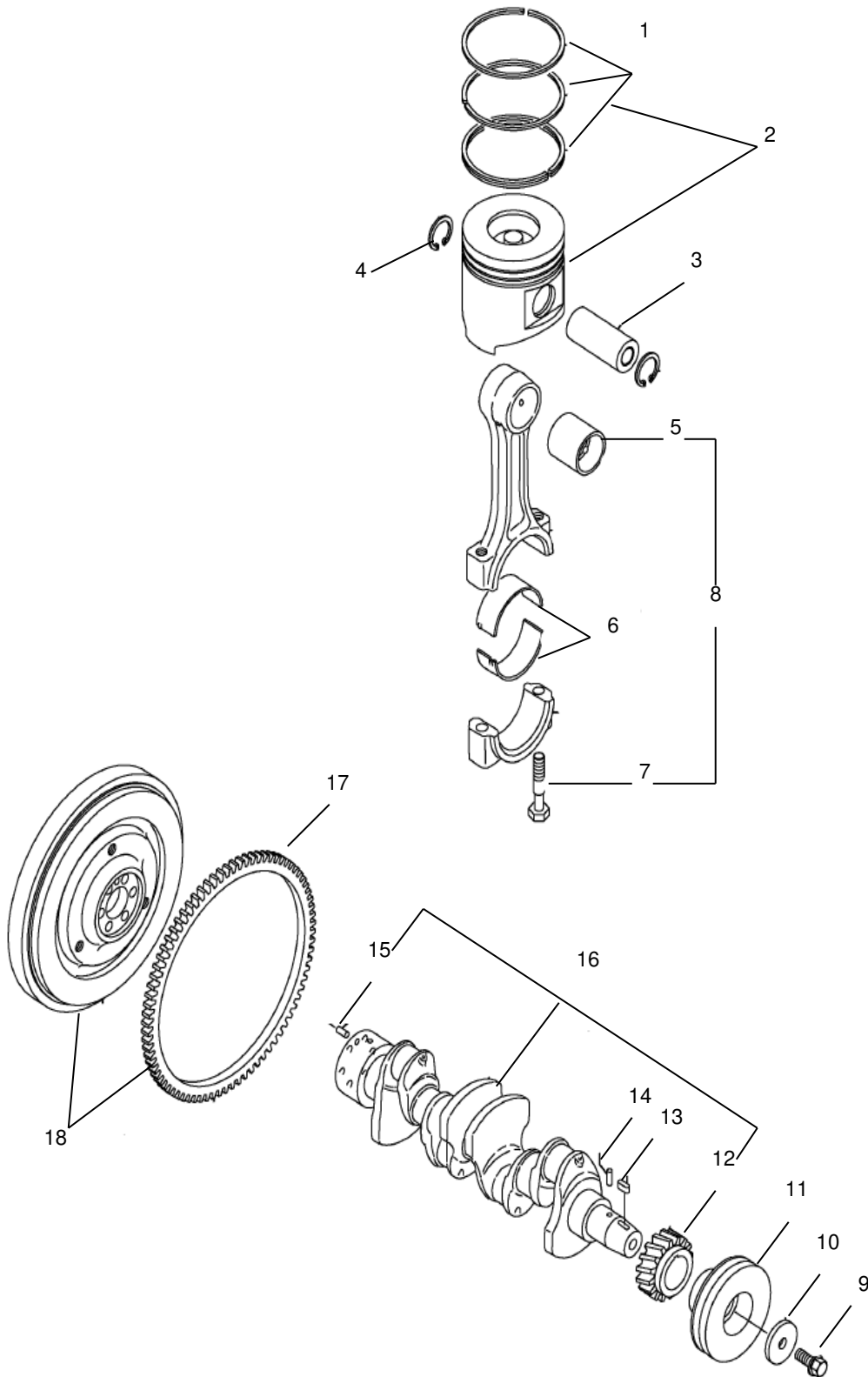
7.10 CRANKSHAFT & PISTON – TIER II

**Parts List**

When ordering replacement parts/kits, please specify model and serial number your unit.

Item	Part Number	Description	Qty
1	129907-22050	RING SET STANDARD	4
	729907-22950	RING SET O/S=0.25	4
2	129907-22090	PISTON WITH RING STANDARD	4
	129907-22910	PISTON WITH RING STANDARD O/S=0.25	4
3	120130-22301	PISTON PIN	4
4	22252-000300	CIRCLIP 30	8
5	129900-23910	BUSH, PISTON PIN	4
6	129900-23600	BEARING ASSY, CRANKCASE PIN STANDARD	4
	129900-23610	BEARING PIN O/S=.025	4
7	129900-23200	BOLT, ROD	8
8	129900-23000	CONNECTING ROD ASSY	4
9	121850-21680	BOLT, V-PULLEY	1
10	129900-21640	WASHER	1
11	129907-21660	V-PULLEY, CRANKCASE	1
12	129900-21200	GEAR, CRANKSHAFT	1
13	22512-070140	KEY 7 X 14	1
14	121850-21290	PARALLEL PIN	1
15	121850-21920	PARALLEL PIN 10 X 22	1
16	129902-21000	CRANKSHAFT ASSY INCLUDES ITEMS 12-15	1
17	129900-21600	RING GEAR	1
18	129953-21570	FLYWHEEL WITH RING GEAR	1

7.11 CRANKSHAFT & PISTON – TIER III





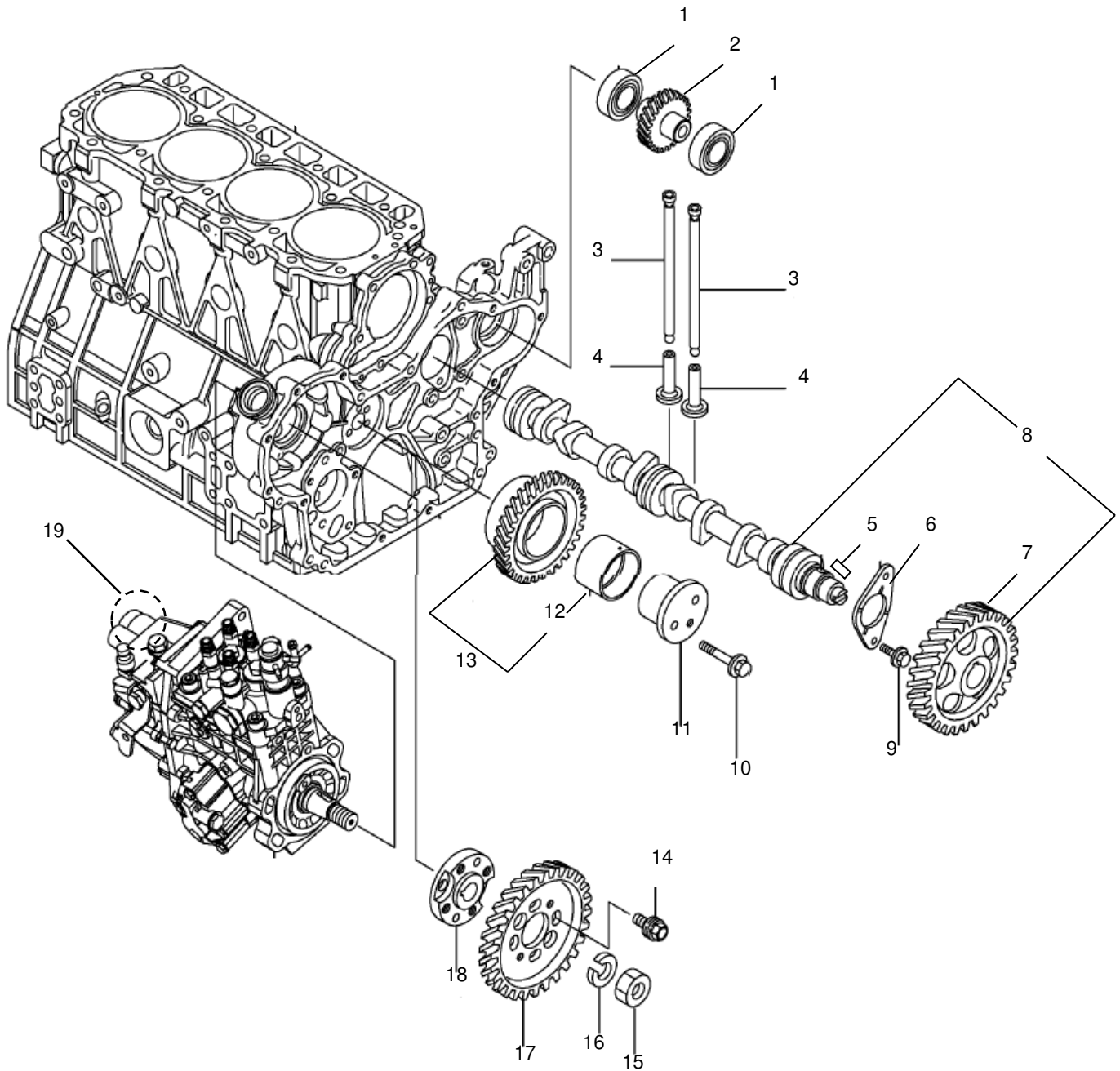
7.11 CRANKSHAFT & PISTON – TIER III

**Parts List**

When ordering replacement parts/kits, please specify model and serial number your unit.

Item	Part Number	Description	Qty
1	129927-22050	RING SET STANDARD	4
	729927-22950	RING SET O/S=0.25	4
2	129907-22080	PISTON WITH RING STANDARD	4
	129907-22900	PISTON WITH RING STANDARD O/S=0.25	4
3	120130-22301	PISTON PIN	4
4	22252-000300	CIRCLIP 30	8
5	129900-23911	BUSH, PISTON PIN	4
6	129900-23601	BEARING ASSY, CRANKCASE PIN STANDARD	4
	129900-23611	BEARING PIN O/S=.025	4
7	129900-23200	BOLT, ROD	8
8	129900-23001	CONNECTING ROD ASSY	4
9	129916-21610	BOLT, V-PULLEY	1
10	129900-21640	WASHER	1
11	129907-21660	V-PULLEY, CRANKCASE	1
12	129900-21220	GEAR, CRANKSHAFT	1
13	22512-070140	KEY 7 X 14	1
14	121850-21290	PARALLEL PIN	1
15	121850-21920	PARALLEL PIN 10 X 22	1
16	129902-21050	CRANKSHAFT ASSY INCLUDED ITEMS 12-15	1
17	129900-21600	RING GEAR	1
18	129953-21570	FLYWHEEL WITH RING GEAR	1

7.12 CAMSHAFT & DRIVING GEAR – TIER II





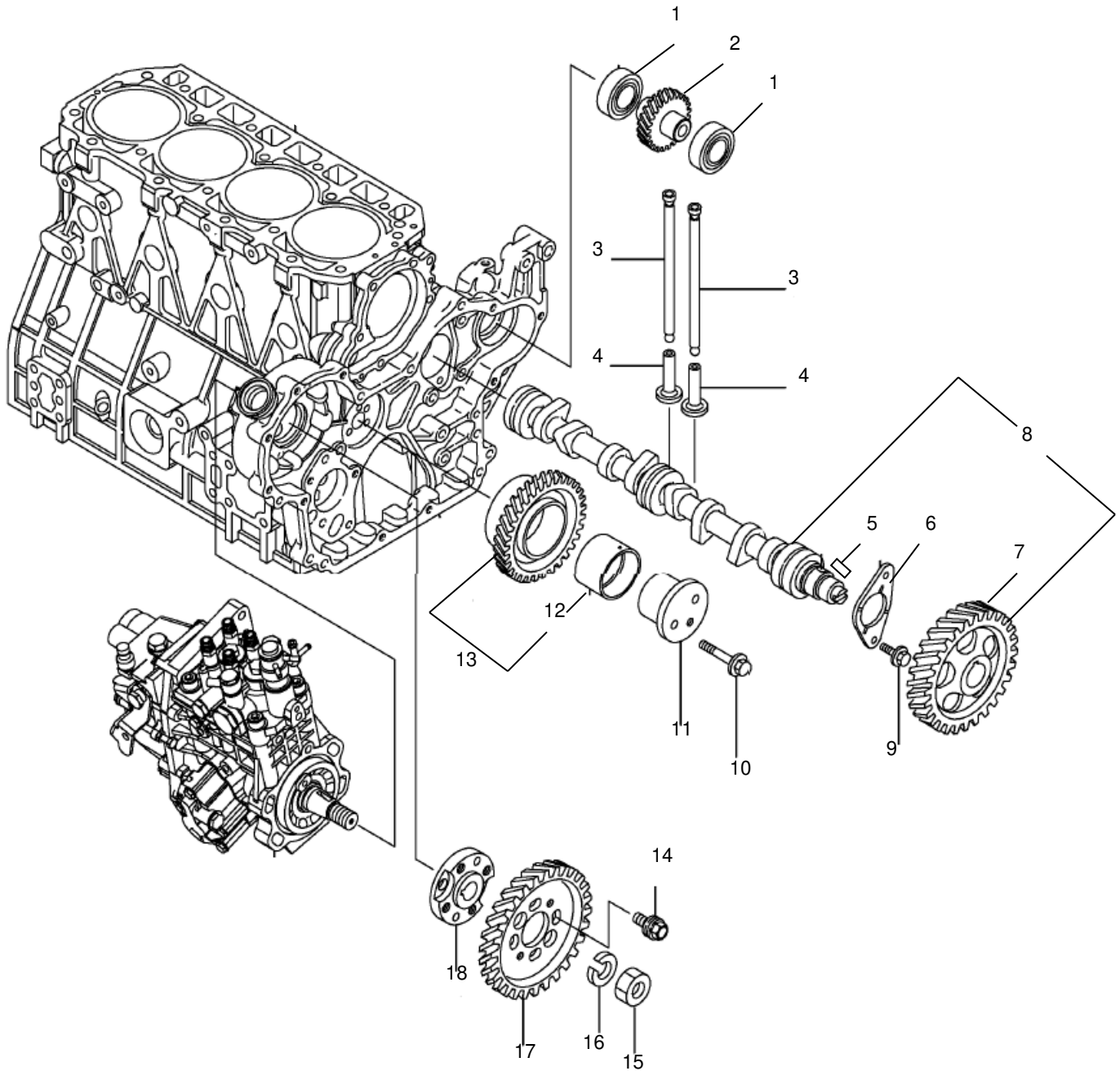
7.12 CAMSHAFT & DRIVING GEAR – TIER II

**Parts List**

When ordering replacement parts/kits, please specify model and serial number your unit.

Item	Part Number	Description	Qty
1	129900-26250	BALL BEARING	2
2	129980-26200	GEAR, HO PUMP	1
3	129907-14400	PUSH ROD	8
4	129150-14200	TAPPET	8
5	22512-070140	KEY 7 X 14	1
6	129150-02450	THRUST BEARING(CAM)	1
7	129900-14100	GEAR, CAMSHAFT	1
8	129907-14581	CAMSHAFT ASSEMBLY INCLUDES ITEMS 5-7	1
9	26106-080162	BOLT, M8 X 16 PLATED	2
10	26106-080552	BOLT, M8 X 55 PLATED	3
11	123900-25060	SHAFT (GEAR IDLE)	1
12	129150-25920	BUSH, IDLE GEAR	1
13	129900-25100	GEAR ASSEMBLY INCLUDES ITEM 12	1
14	129953-25300	BOLT	4
15	26776-180002	NUT, M18 LOCK	1
16	22217-180000	SPRING WASHER 18	1
17	123907-25909	GEAR, FUEL INJECTION PUMP	1
18	158563-51150	FLANGE	1
19	119653-77950	FUEL STOP SOLENOID	1

7.13 CAMSHAFT & DRIVING GEAR – TIER III





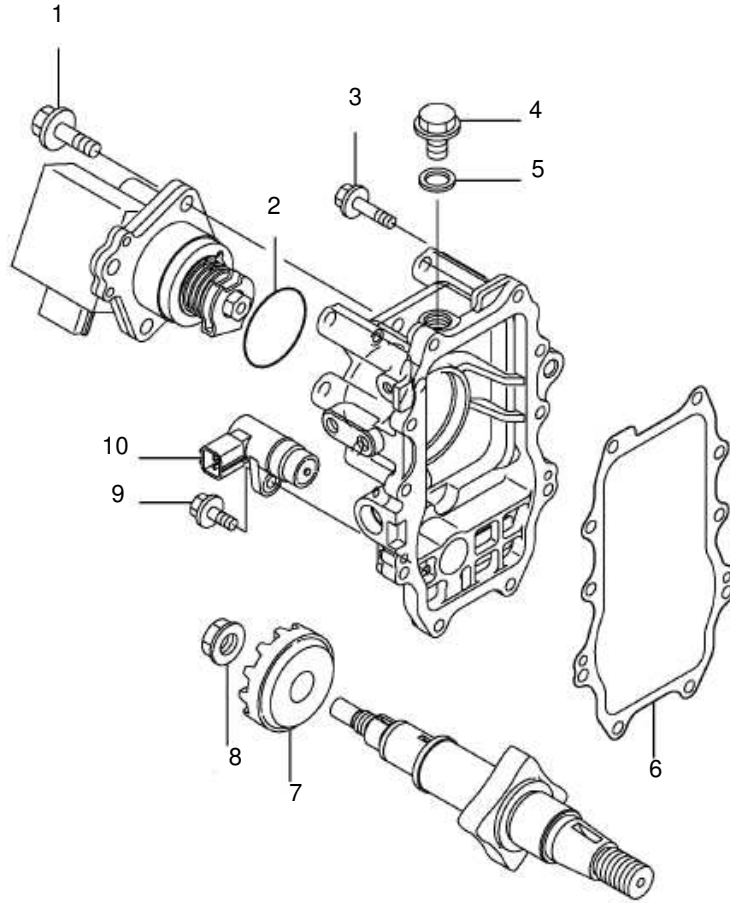
7.13 CAMSHAFT & DRIVING GEAR – TIER III

**Parts List**

When ordering replacement parts/kits, please specify model and serial number your unit.

Item	Part Number	Description	Qty
1	129900-26250	BALL BEARING	2
2	129980-26200	GEAR, HO PUMP	1
3	129907-14400	PUSH ROD	8
4	129150-14200	TAPPET	8
5	22512-070140	KEY 7 X 14	1
6	129150-02450	THRUST BEARING(CAM)	1
7	129900-14100	GEAR, CAMSHAFT	1
8	129907-14581	CAMSHAFT ASSEMBLY INCLUDES ITEMS 5-7	1
9	26106-080162	BOLT, M8 X 16 PLATED	2
10	26106-080552	BOLT, M8 X 55 PLATED	3
11	123900-25060	SHAFT (GEAR IDLE)	1
12	129150-25920	BUSH, IDLE GEAR	1
13	129900-25100	GEAR ASSEMBLY INCLUDES ITEM 12	1
14	129953-25300	BOLT	4
15	26776-180002	NUT, M18 LOCK	1
16	22217-180000	SPRING WASHER 18	1
17	123907-25909	GEAR, FUEL INJECTION PUMP	1
18	158563-51150	FLANGE	1

7.14 GOVERNOR ASSEMBLY – TIER III (ONLY)

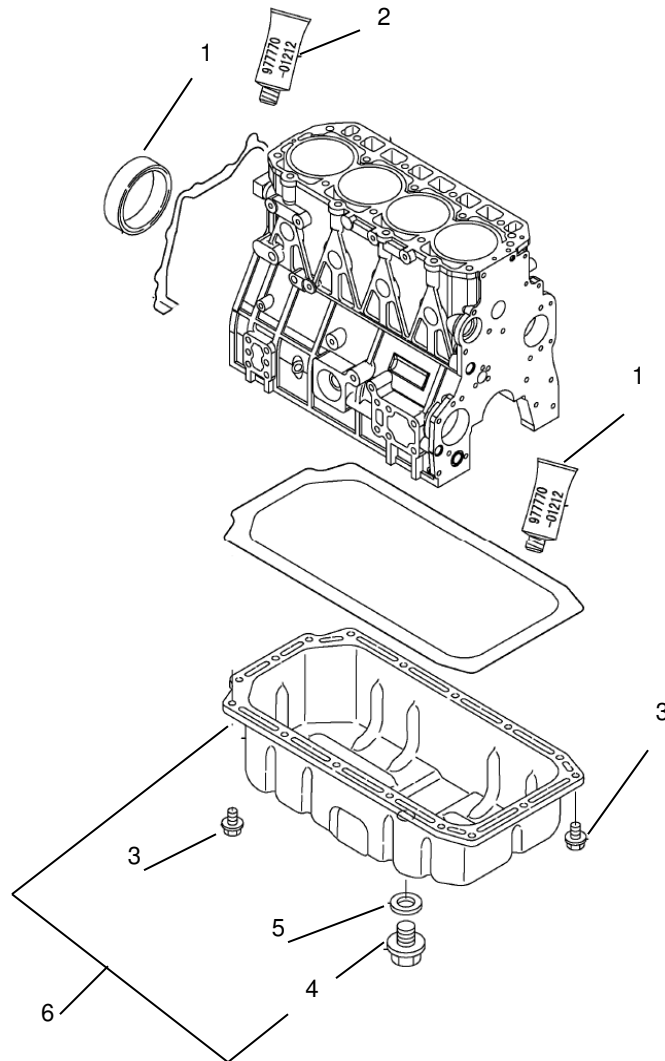


**Parts List**

When ordering replacement parts/kits, please specify model and serial number your unit.

Item	Part Number	Description	Qty
1	26106-080252	BOLT, M8 X 25 PLATED	3
2	24341-000480	O-RING 1A S-48.0	1
3	26106-060252	BOLT, M6 X 25 PLATED	10
4	23887-120002	PLUG, M12 HEX	1
5	22190-120000	SEAL WASHER 12(BOLT)	1
6	158560-61050	GASKET	1
7	158553-61780	GEAR, SENSOR	1
8	129008-61301	NUT, GOVERNOR WEIGHT	1
9	26106-060162	BOLT, M6 X 16 PLATED	1
10	158557-61720	SENSOR	1

7.15 OIL PAN ASSEMBLY

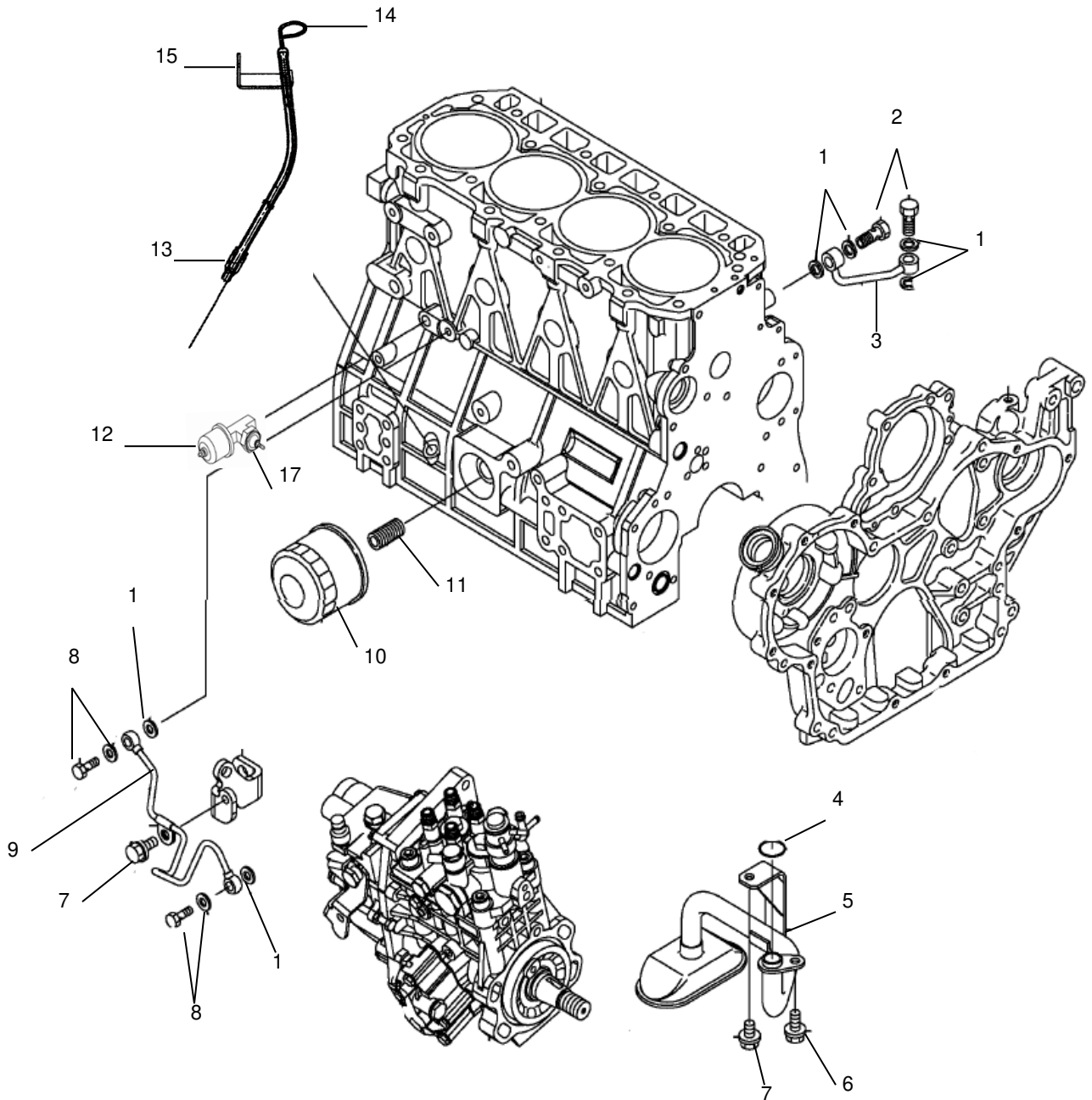


**Parts List**

When ordering replacement parts/kits, please specify model and serial number your unit.

Item	Part Number	Description	Qty
1	122916-01790	SEAL	1
2	977770-01212	GASKET, LIQUID	1
3	26106-080122	BOLT M8 X 12 PLATED	16
4	119640-01640	DRAIN PLUG	1
5	22190-220002	SEAL WASHER 22S	1
6	129916-01710	OIL PAN ASSEMBLY INCLUDES ITEMS 4 & 5	1

7.16 LUBE – OIL SYSTEM





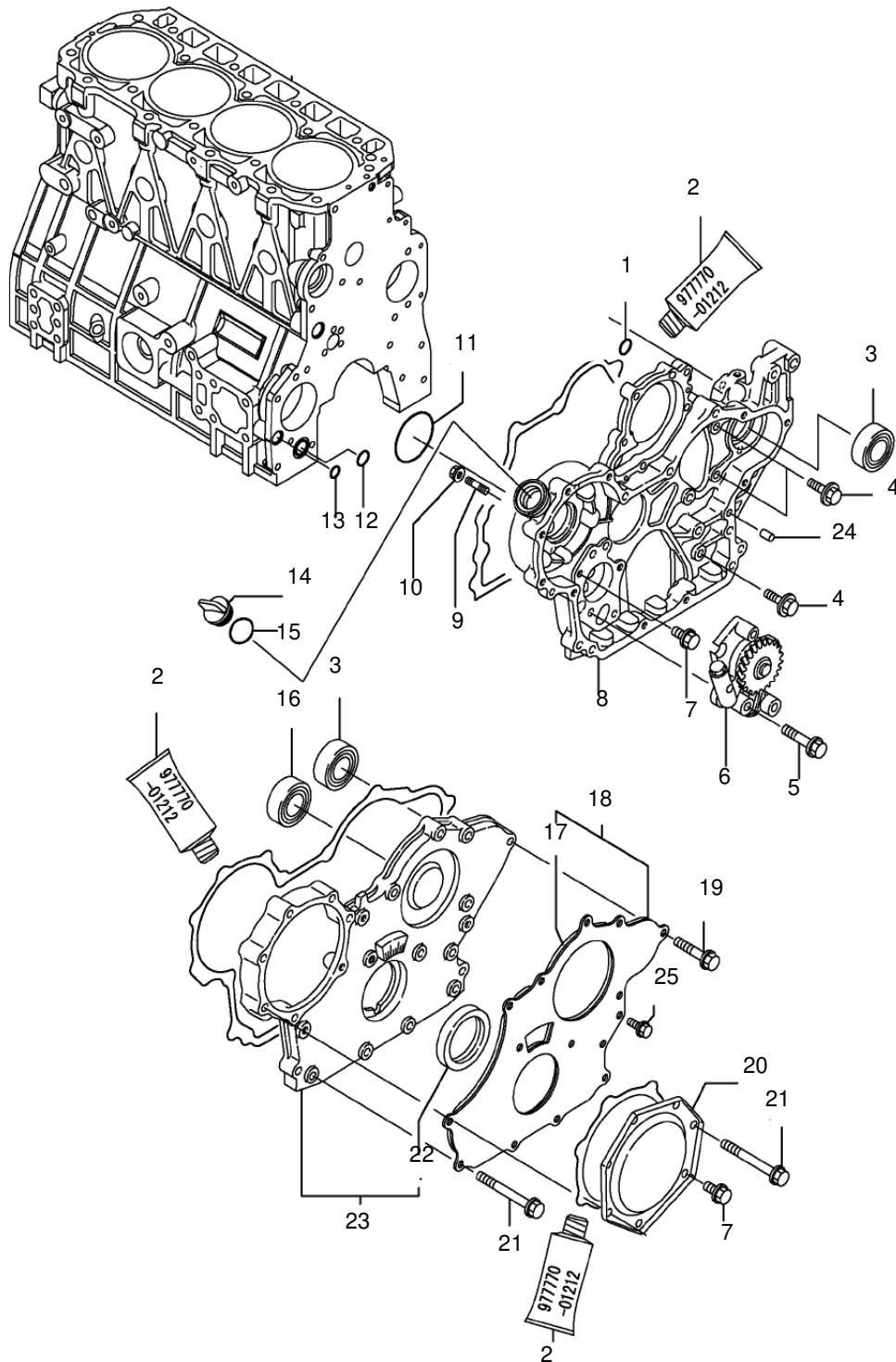
7.16 LUBE – OIL SYSTEM

**Parts List**

When ordering replacement parts/kits, please specify model and serial number your unit.

Item	Part Number	Description	Qty
1	22190-080002	SEAL WASHER 8S	6
2	105010-39140	BOLT, PIPE JOINT	2
3	129930-39050	PIPE	1
4	129900-32030	O-RING P20	1
5	129953-35000	PIPE ASSEMBLY OIL INLET	1
6	26106-080162	BOLT, M8 X 16 PLATED	1
7	26106-080122	BOLT M8 X 12 PLATED	2
8	129005-59830	BOLT ASSEMBLY, JOINT	2
9	129907-39061	PIPE ASSEMBLY LUBE OIL	1
10	129150-35153	OIL FILTER ELEMENT	1
11	119000-35140	STUD LUBE OIL FILTER	1
12	A-TT4-00651-1	OIL PRESSURE SENDING UNIT	1
13	119260-34810	GUIDE, DIPSTICK	1
14	129907-34811	DIPSTICK	1
15	129928-34850	TUBE, DIPSTICK	1
16	24311-240100	O-RING, DIPSTICK (NOT SHOWN)	1
17	119761-39450	OIL PRESSURE SWITCH, TIER 3/4i	1
	114250-39450	OIL PRESSURE SWITCH, TIER 2	1

7.17 GEAR HOUSING





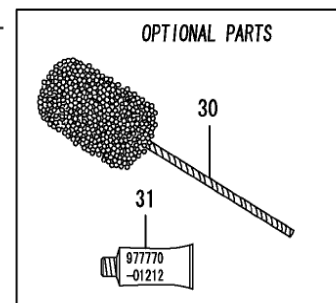
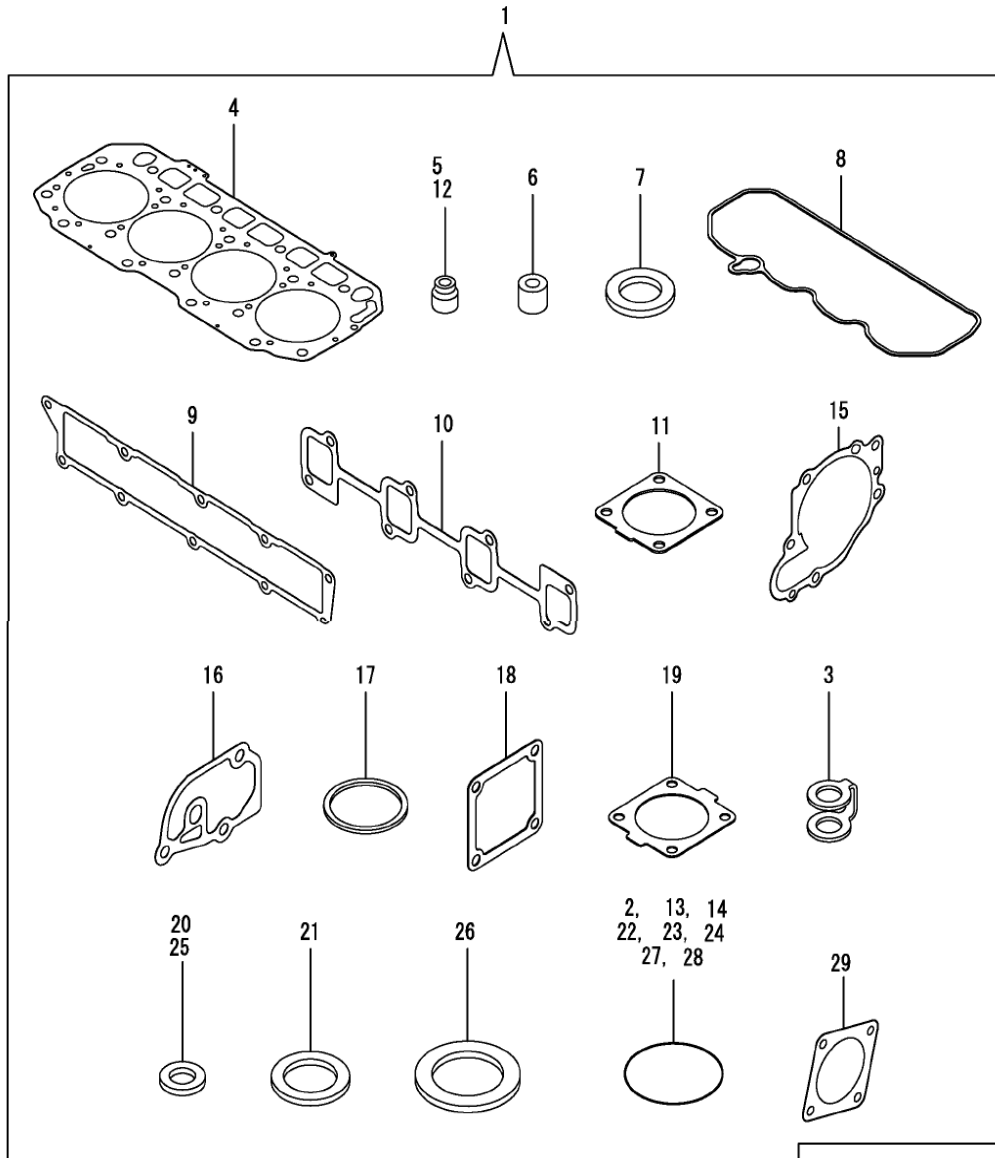
7.17 GEAR HOUSING

**Parts List**

When ordering replacement parts/kits, please specify model and serial number your unit.

Item	Part Number	Description	Qty
1	24311-000070	O-RING 1A P7.0	1
2	977770-01212	GASKET, LIQUID	3
3	129900-26250	BALL BEARING	2
4	26106-080202	BOLT, M8 X 20 PLATED	3
5	26106-080452	BOLT, M8 X 45 PLATED	3
6	129900-32001	OIL PUMP ASSEMBLY	1
7	26106-080162	BOLT, M8 X 16 PLATED	3
8	129962-01500	CASE, GEAR	1
9	26216-100302	STUD, BOLT	4
10	26306-100002	NUT	4
11	24351-030750	PACKING, 3075	1
12	129900-32030	O-RING P20	1
13	129900-32040	O-RING P14	1
14	124160-01751	OIL FILLER CAP	1
15	24311-000320	O-RING 1A P32.0	1
16	129900-14140	BEARING #6205	1
17	129900-01870	SPONGE	1
18	129900-01850	COVER ASSEMBLY INCLUDES ITEM 20	1
19	26106-080402	BOLT M8 X 40 PLATED	10
20	129900-01740	COVER, FI PUMP	1
21	129001-91810	BOLT, M8 X 70 PLATED	7
22	129900-01780	SEAL, OIL	1
23	729907-01550	HOUSING ASSY COVER INCLUDES ITEM 25	1
24	129100-01580	PARALLEL PIN 8 X 16	4
25	26106-080162	BOLT, M8 X 16 PLATED	3

7.18 ENGINE GASKETS – TIER II





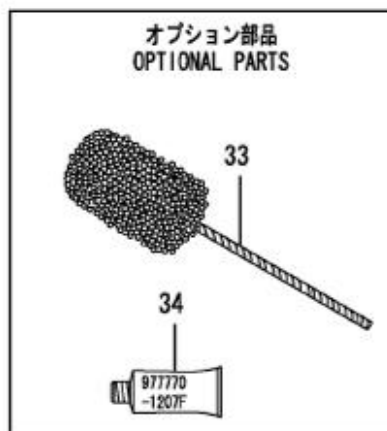
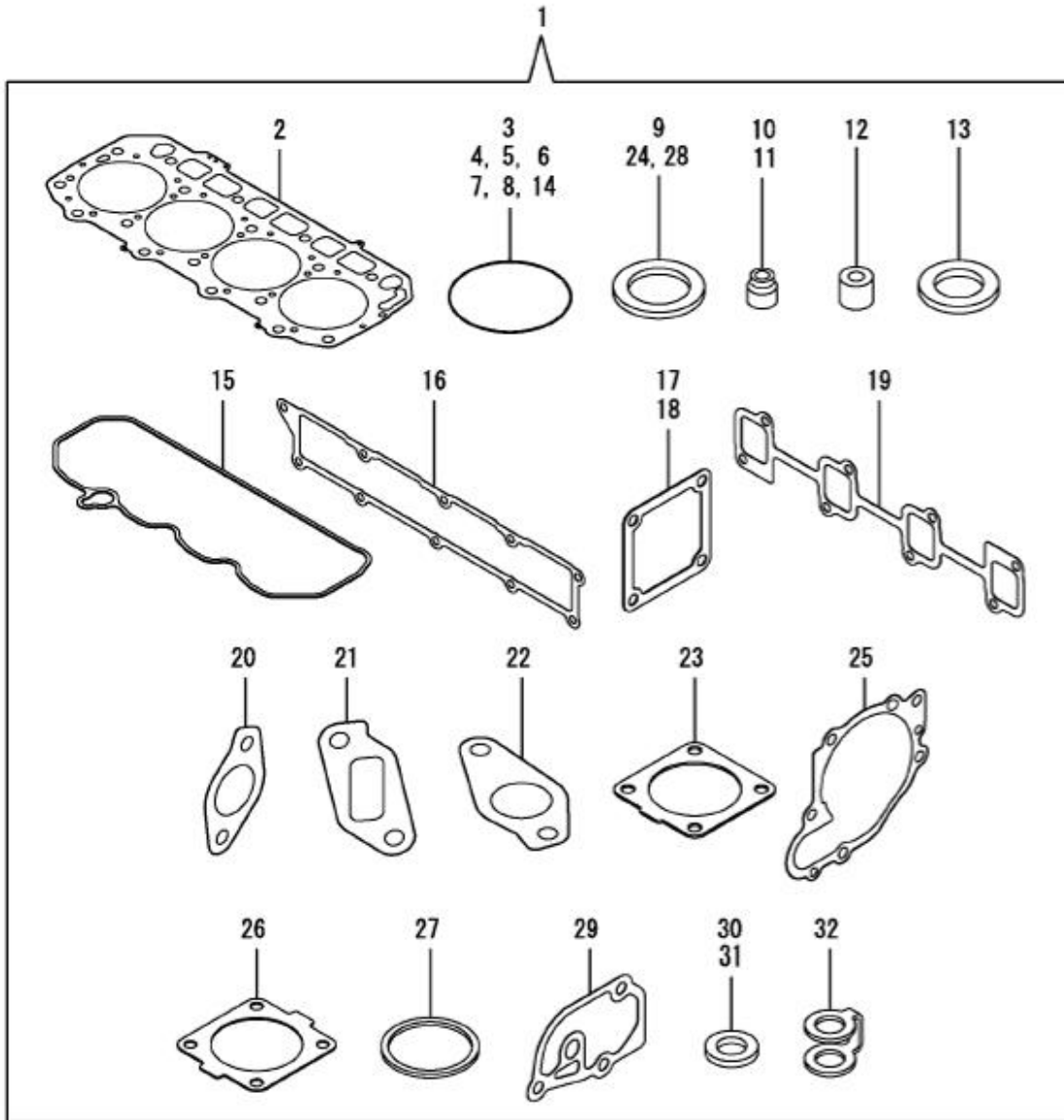
7.18 ENGINE GASKETS – TIER II

**Parts List**

When ordering replacement parts/kits, please specify model and serial number your unit.

Item	Part Number	Description	Qty
1	729907-92760	GASKET SET	1
2	24341-000240	O-RING 1A S-24.0	1
3	123907-59550	PACKING, FUEL RETURN	5
4	129907-01331	CLYLINDER HEAD GASKET	1
5	124160-11340	SEAL, VALVE STEM	8
6	119802-11870	PROTECTOR NOZZLE	4
7	119625-11880	SEAT, NOZZLE	4
8	129907-11310	HEAD COVER GASKET	1
9	129907-12110	INTAKE MANIFOLD GASKET	1
10	129900-13251	EXHAUST MANIFOLD GASKET	1
11	129930-13200	GASKET, SILENCER	1
12	124950-11340	SEAL, VALVE STEM	8
13	129900-32030	O-RING P20	2
14	129900-32040	O-RING P14	1
15	129900-42020	WATER PUMP GASKET	1
16	129900-49870	CASE GASKET	1
17	121850-49550	THERMOSTAT GASKET	1
18	121850-77021	GASKET	1
19	121850-49540	THERMOSTAT HOUSING GASKET	1
20	23414-080000	GASKET 8, ROUND	3
21	124465-44950	GASKET 16	2
22	24311-000070	O-RING 1A P7.0	1
23	14311-000120	O-RING 1A P12.0	8
24	24311-000320	O-RING 1A P32.0	2
25	22190-080002	SEAL WASHER 8S	7
26	22190-220002	SEAL WASHER 22S	1
27	24351-030750	PACKING 3075	1
28	24321-000850	O-RING 1A G85.0	1
29	124240-01883	GASKET	1
30	129400-92450	FLEX HONE	1
31	977770-01212	GASKET, LIQUID	1

7.19 ENGINE GASKETS – TIER III





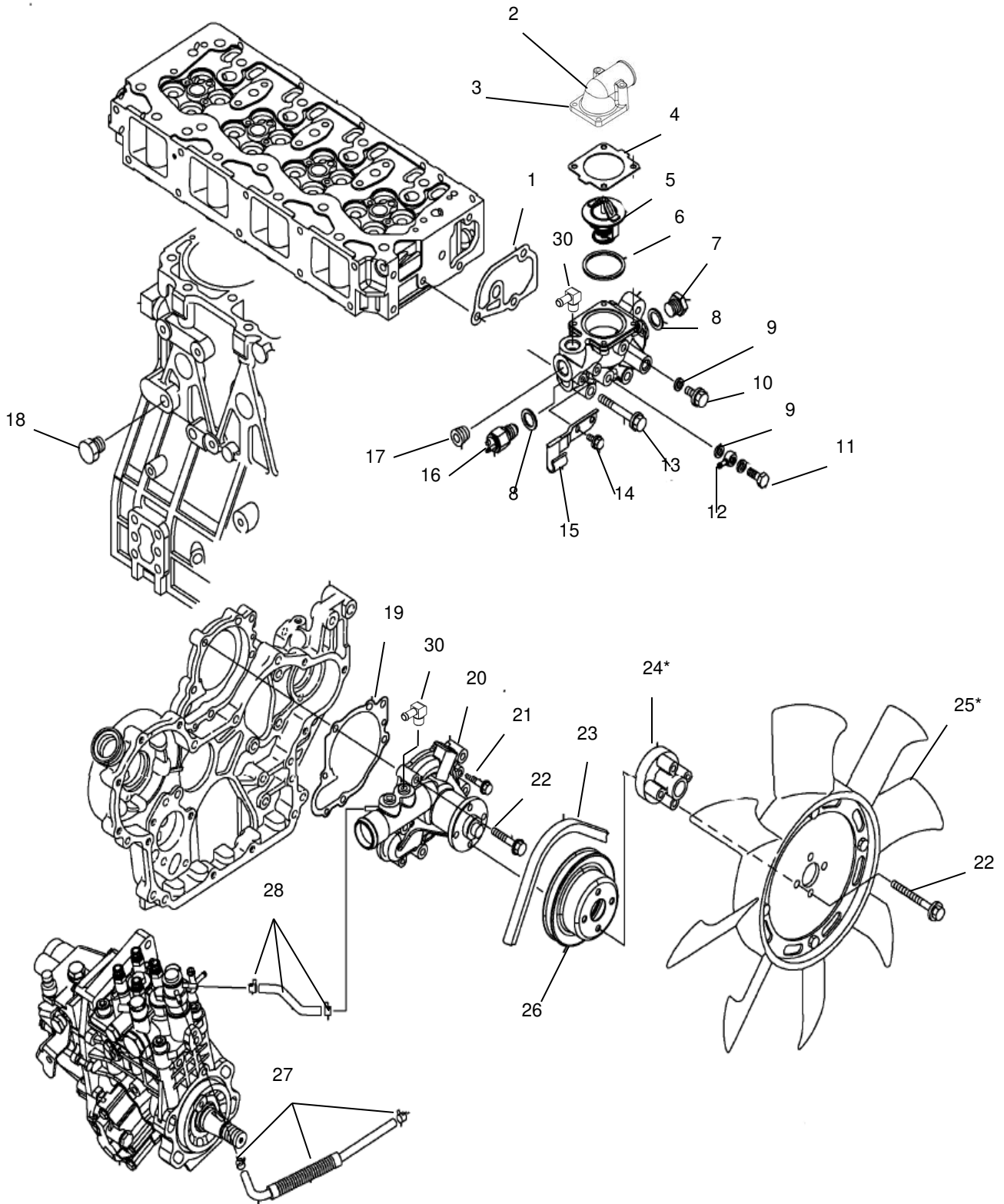
7.19 ENGINE GASKETS – TIER III

**Parts List**

When ordering replacement parts/kits, please specify model and serial number your unit.

Item	Part Number	Description	Qty
1	729927-92760	GASKET SET	1
2	129907-01331	CLYLINDER HEAD GASKET	1
3	129900-32030	O-RING P20	2
4	129900-32040	O-RING P14	1
5	24311-000070	O-RING 1A P7.0	1
6	24351-030750	PACKING 3075	1
7	24311-000320	O-RING 1A P32.0	2
8	24321-000850	O-RING 1A G85.0	1
9	22190-220002	SEAL WASHER 22S	1
10	119803-11340	SEAL, VALVE STEM	8
11	124160-11340	SEAL, VALVE STEM	8
12	119802-11870	PROTECOR NOZZLE	4
13	119625-11880	SEAT, NOZZLE	4
14	24311-000120	O-RING 1A P12.0	8
15	129933-11310	GASKET, HEAD COVER	1
16	129907-12110	GASKET, INTAKE MANIFOLD	1
17	119129-77020	GASKET	1
18	121850-77021	GASKET	1
19	129900-13251	GASKET, EXHAUST MANIFLOLD	1
20	129927-13810	GASKET, EGR PIPE	1
21	129927-13910	GASKET, EGR-V IN	1
22	129927-13920	GASKET, EGR-V OUT	1
23	129930-13201	GASKET, SILENCER	1
24	22190-080002	SEAL WASHER 8S	9
25	129900-42020	GASKET, CW-P	1
26	121850-49540	GASKET, THERMOSTAT	1
27	121850-49550	GASKET, THERMOSTAT	1
28	22190-120002	SEAL WASHER 12	1
29	129900-49870	GASKET, CASE	1
30	23414-080000	GASKET 8 ROUND	1
31	124465-44950	GASKET 16	2
32	123907-59550	PACKING, FUEL RETURN	5
33	129400-92450	FLEX HONE	1
34	977770-1207F	GASKET, LIQUID	1

8.0 COOLING SYSTEM  
8.1 ENGINE COOLING SYSTEM – TIER II





8.1 ENGINE COOLING SYSTEM – TIER II

**Parts List**

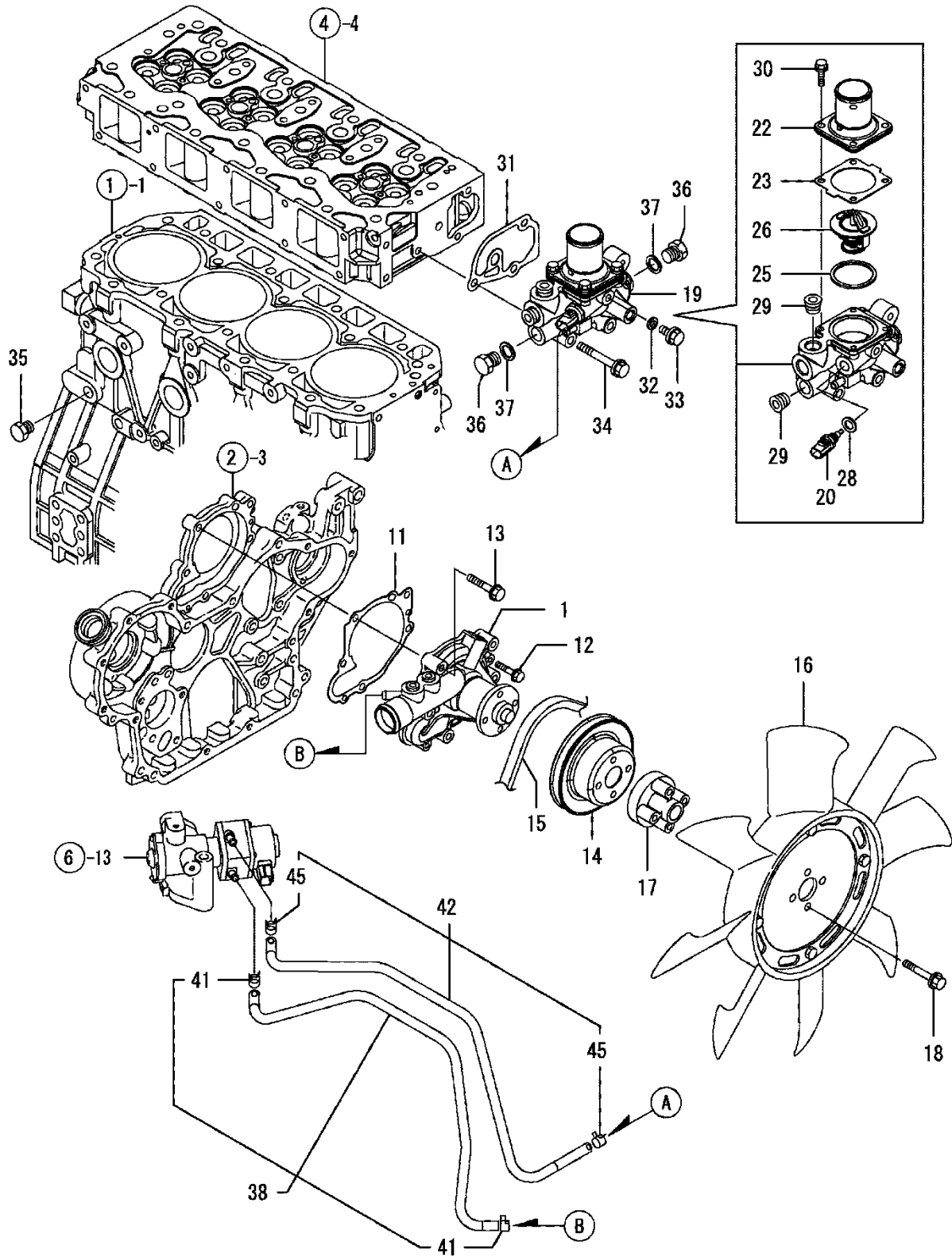
When ordering replacement parts/kits, please specify model and serial number your unit.

Item	Part Number	Description	Qty
1	129900-49870	GASKET, CASE	1
2	129980-49530	THERMOSTAT HOUSING	1
3	26106-060202	BOLT, M6 X 20 PLATED	4
4	121850-49540	GASKET, THERMOSTAT HOUSING	1
5	121850-49811	THERMOSTAT	1
6	121850-49550	THERMOSTAT GASKET	1
7	121450-42450	PLUG M16	1
8	124465-44950	GASKET	2
9	23414-080000	GASKET	3
10	26106-080122	BOLT, M8 X 12 PLATED	1
11	105582-59150	BOLT, PIPE JOINT	1
12	23387-040800	JOINT	1
13	26106-080602	BOLT, M8 X 60 PLATED	3
14	26106-060122	BOLT, M6 X 12 PLATED	2
15	122907-49730	BRACKET	1
16	129927-44900	TEMPERATURE SENDING UNIT TIER III ONLY	1
17	323-094	TEMPERATURE SENDING UNIT TIER II ONLY	1
18	171056-49120	DRAIN PLUG	1
19	129900-42020	GASKET, WATER PUMP	1
20	129907-42000	WATER PUMP	1
21	26106-060302	HCS, M6X1.00 X 30, FLANGE HEAD	2
22	NPN	HCS, M8X1.25 X 45	9
23	25132-004200	V-BELT	1
24*	A-TT8-00360	FAN SPACER	1
25*	A-TT8-00312	FAN	1
26	129900-42450	PULLEY, WATER PUMP	1
27	129907-49710	PIPE A, COOLING WITH CLAMPS	1
28	129907-49620	HOSE B ASSEMBLY, WATER	1
29	A-TT8-00359	REMOTE FAN BELT (NOT SHOWN)	1
30	05710B-C06	90° ELBOW - 3/8 NPT - 5/8 BARB	2

\* Parts shown may differ visually from actual parts used.

Note: Item 30 only present if cab is equipped.

8.2 ENGINE COOLING SYSTEM – TIER III





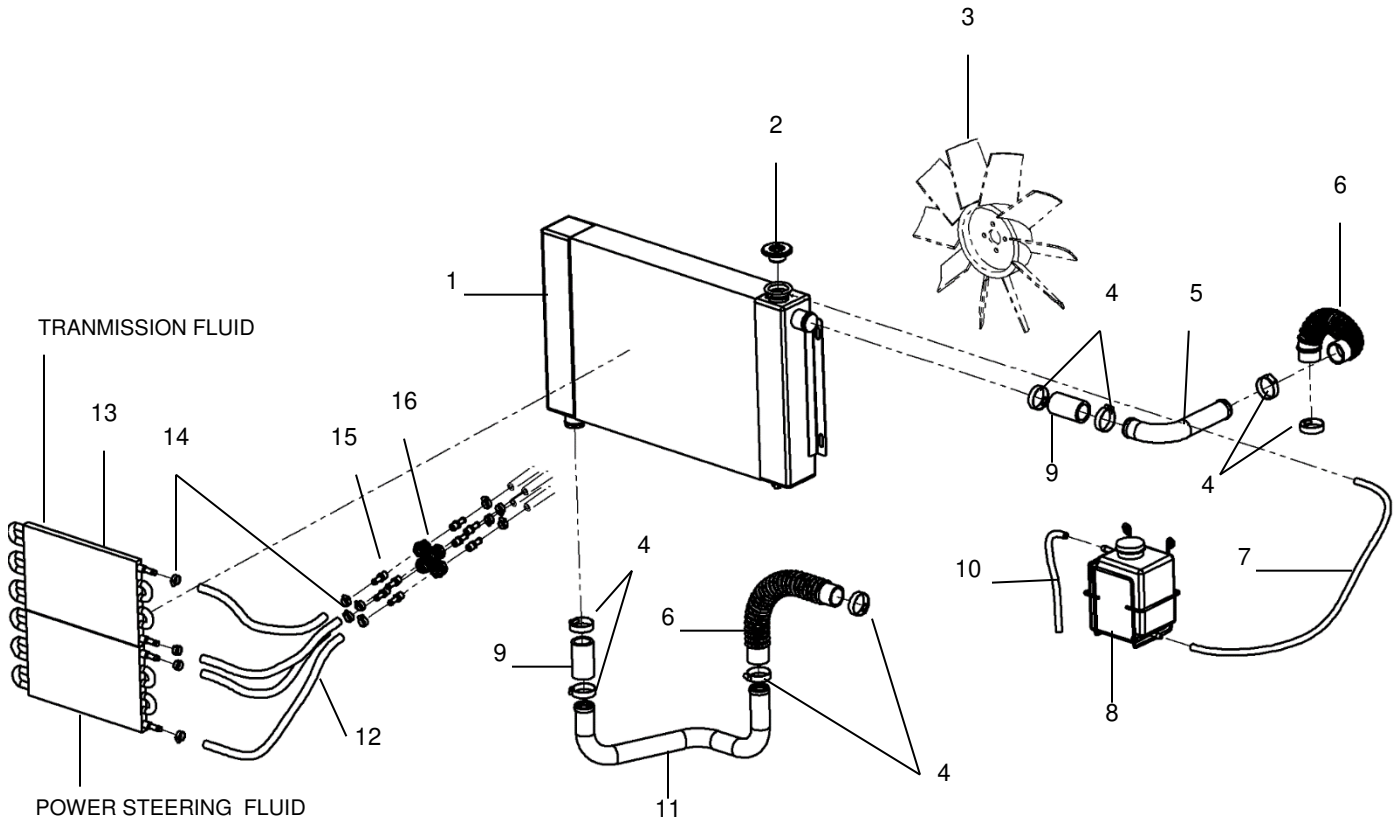
8.2 ENGINE COOLING SYSTEM – TIER III

**Parts List**

When ordering replacement parts/kits, please specify model and serial number your unit.

Item	Part Number	Description	Qty
1	129927-42000	PUMP ASSEMBLY, WATER	1
11	129900-42020	GASKET, CW-P	1
12	26106-060302	BOLT M 6X 30 PLATED	2
13	26106-080552	BOLT M 8X 55 PLATED	5
14	129900-42450	PULLEY	1
15	25132-004200	V-BELT A42	1
16	129920-44740	FAN, COOLING	1
17	119141-44760	SPACER, FAN	1
18	26106-080552	BOLT M 8X 55 PLATED	4
19	129927-49800	CASE ASSY, THERMOSTAT	1
20	129927-44900	THERMOMETER	1
22	129916-49530	COVER, THERMOSTAT	1
23	121850-49540	GASKET, THERMOSTAT	1
25	121850-49550	GASKET, THERMOSTAT	1
26	121850-49810	THERMOSTAT, 71	1
28	22190-120002	SEAL WASHER 12	1
29	23875-030000	PLUG PT3/8, STEEL	2
30	26106-060202	BOLT M 6X 20 PLATED	4
31	129900-49870	GASKET, CASE	1
32	23414-080000	GASKET 8, ROUND	1
33	26106-080122	BOLT M 8X 12 PLATED	1
34	26106-080602	BOLT M 8X 60 PLATED	3
35	171056-49120	PLUG, DRAIN	1
36	121450-42450	PLUG M16	2
37	124465-44950	GASKET 16	2
38	129927-49610	PIPE ASSY, WATER A	1
41	23080-012000	CLAMP 12	2
42	129927-49620	PIPE ASSY, WATER B	1

8.3 RADIATOR (COPPER)



**Parts List**

When ordering replacement parts/kits, please specify model and serial number your unit.

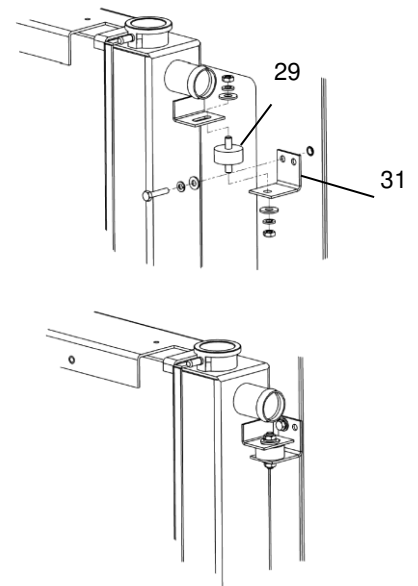
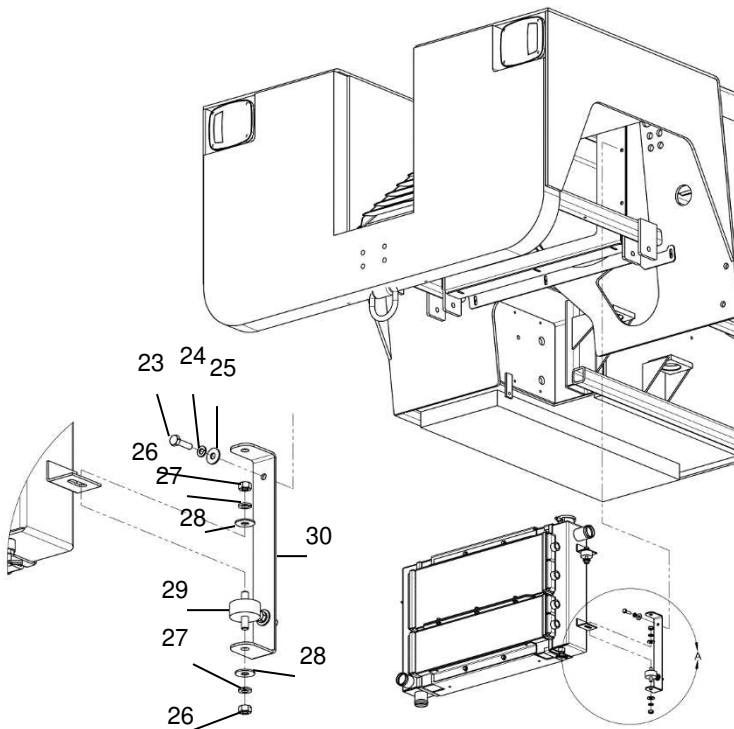
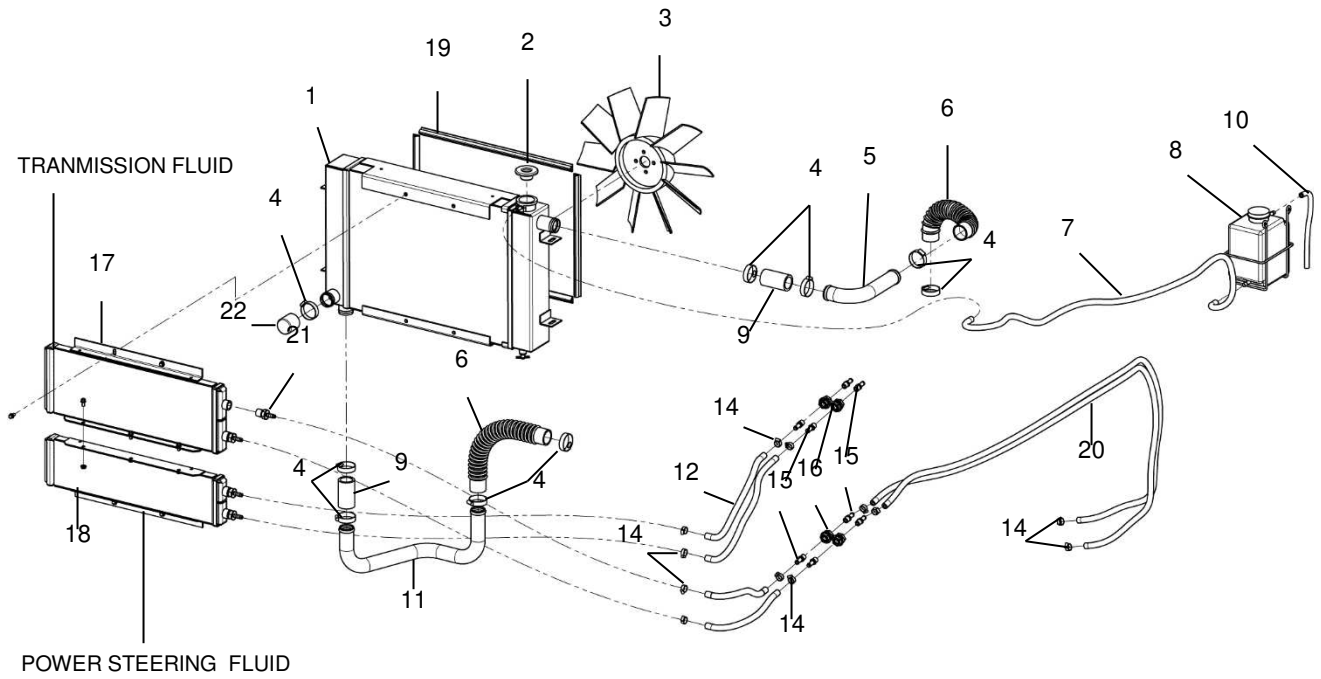
Item	Part Number	Description	Qty
1	B-TT4-00313 (COPPER)	COPPER RADIATOR	1
2	A-USAT5-00330	RADIATOR CAP	1
3	A-TT8-00312	FAN	1
4	NPN	# 24 HOSE CLAMP	10
5	A-TT8-00322	COOLANT ELBOW	1
6	A-TT10-00323-1	RADIATOR HOSE	2
7	H05705	5/16 HOSE SAE30R7 WK PR 75 "	1
8	A-TT10TD-00322	SURGE TANK	1
9	A-TT4-00331	COOLING HOSE 1.5 ID X 4 IN	2 OR 3
10	NPN	CLEAR NYLON HOSE 36"	1
11	A-TT8-00320	COOLANT OUTLET PIPE	1
12	H05705	5/16 HOSE SAE30R7 WK PR 20 "	4
13	A-TT4-00221-1	ALUMINUM OIL COOLER	2
14	NPN	#4 HOSE CLAMP	12
15	05706B-104	FITTING, STRAIGHT 3/8 X 1/4	8
16	A-TT4-00280	BULK HEAD FITTING	4
N/S	A-TT8-00314	FAN SHROUD SEAL	1
N/S	H05705	5/16 HOSE SAE30R7 WK PR 80 "	2



Models: TT-4, TT-5, TT-6, TT-8  
Yanmar Diesel 4TNV98 Engine

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8.4 RADIATOR (ALUMINUM)





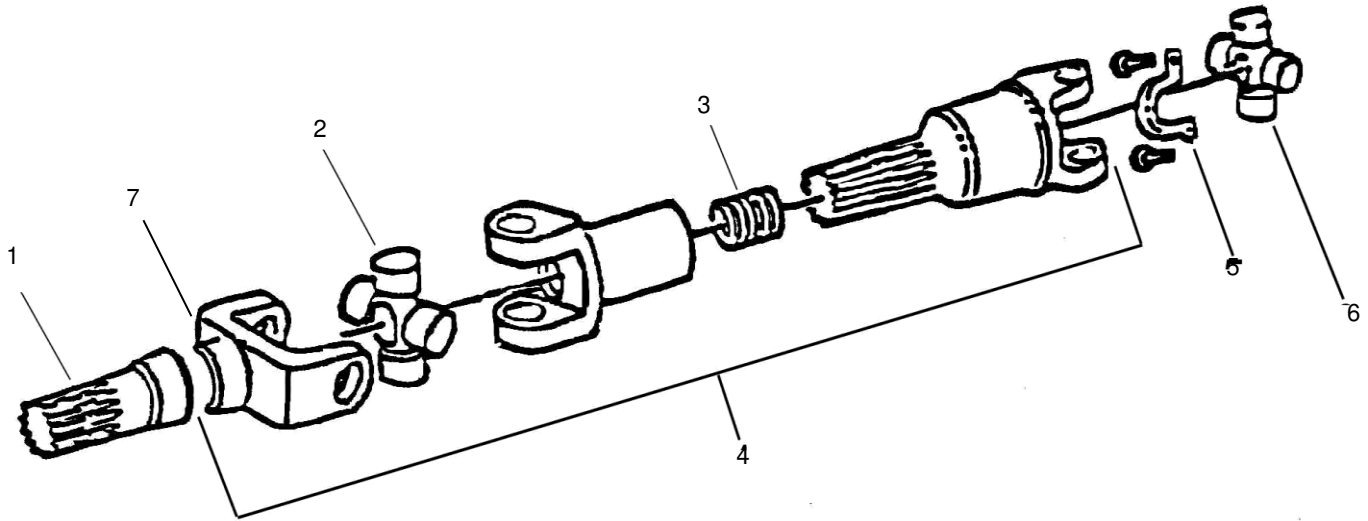
8.4 RADIATOR (ALUMINUM)

**Parts List**

When ordering replacement parts/kits, please specify model and serial number your unit.

Item	Part Number	Description	Qty
1	TT08-08-002-SA (ALUMINUM)	ALUMINUM RADIATOR	1
2	A-USAT5-00330	RADIATOR CAP	1
3	A-TT8-00312	FAN	1
4	NPN	# 24 HOSE CLAMP	10
5	A-TT8-00322	COOLANT ELBOW	1
6	A-TT10-00323-1	RADIATOR HOSE	2
7	H10106	3/8 HOSE 17"	1
8	A-TT10TD-00322	SURGE TANK	1
9	A-TT4-00331	COOLING HOSE 1.5 ID X 4.5 IN	2 OR 3
10	NPN	CLEAR NYLON HOSE 36"	1
11	A-TT8-00320	COOLANT OUTLET PIPE	1
12	H05705	5/16 HOSE SAE30R7 WK PR 20"	4
13	A-TT4-00221-1	COOLER COPPER RADIATOR	2
14	NPN	#4 HOSE CLAMP	12
15	05706B-104	FITTING, STRAIGHT 3/8 X 1/4	4
16	A-TT4-00280	BULK HEAD FITTING	4
17	B-TT4-00221-1	TRANSMISSION COOLER-ALUMINUM	1
18	B-TT4-00221-2	POWER STEERING COOLER-ALUMINUM	1
19	A-TT10-00314	FAN SHROUD SEAL	1
20	H10106	3/8 HOSE SAE30R7 WK PR 86"	2
21	4312-06-08	FITTING, .5 PIPE TO .375 BARB ADAPTOR	4
22	B-TT4-00315	RADIATOR END CAP	1
23	NPN	1/4-20 X 1 HCS	4
24	NPN	1/4 LOCK WASHER	4
25	NPN	1/4 FLAT WASHER	4
26	NPN	5/16-18 HEX NUT	8
27	NPN	5/16 LOCK WASHER	8
28	NPN	5/16 FLAT WASHER	8
29	A-TT8-00364	VIBRATION MOUNTING ISOLATOR	4
30	A-TT8-0372	RADIATOR MOUNTING BRACKET	2
31	J-7567-00	RETROFIT RADIATOR BRACKET	4

**9.0 DRIVELINE**  
**9.1 DRIVE SHAFT ASSEMBLY-FRONT (ALL TT 4-8 MODELS)**

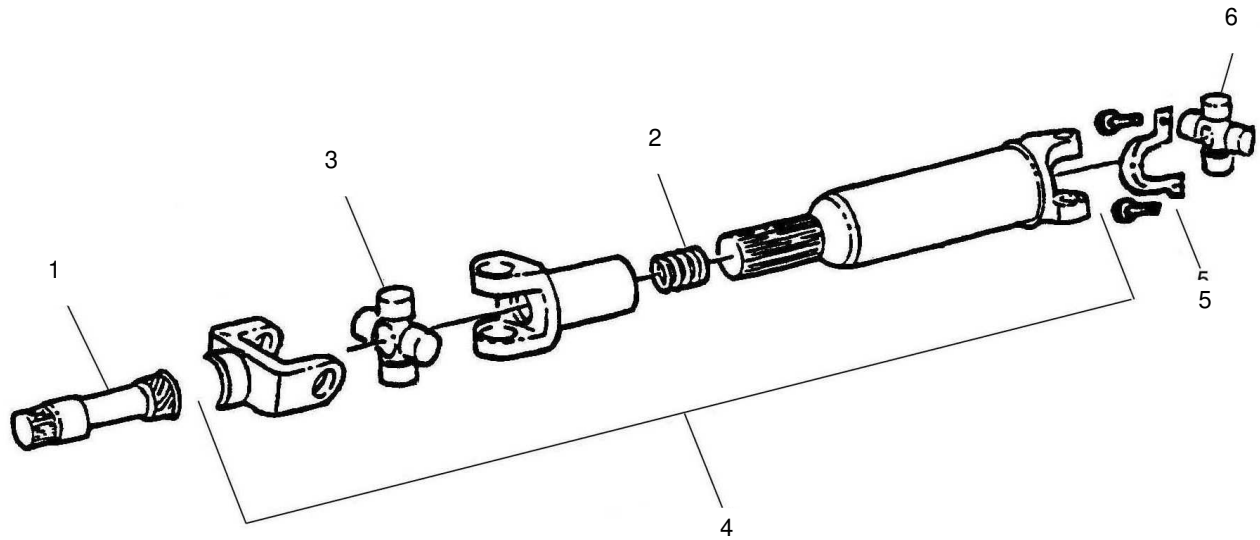


**Parts List**

When ordering replacement parts/kits, please specify model and serial number your unit.

Item	Part Number	Description	Qty
1	A-TT8-00201-1	TRANSMISSION OUTPUT YOKE SHAFT-FRONT	1
2	A-TT4-00132-1	CROSS BEARING FRONT D/S NEW STYLE	1
3	A-TT4-00134	DRIVE SHAFT SPRING	1
4	A-TT8-00202-4	DRIVE SHAFT	1
5	A-TT4-00130	END YOKE STRAP AND BOLT KIT	2
6	A-TT4-00137-1	CROSS BEARING FRONT D/S NEW STYLE	1
7	2-4-1921	END YOKE	1

9.2 DRIVE SHAFT ASSEMBLY-REAR (ALL TT 4-8 MODELS)



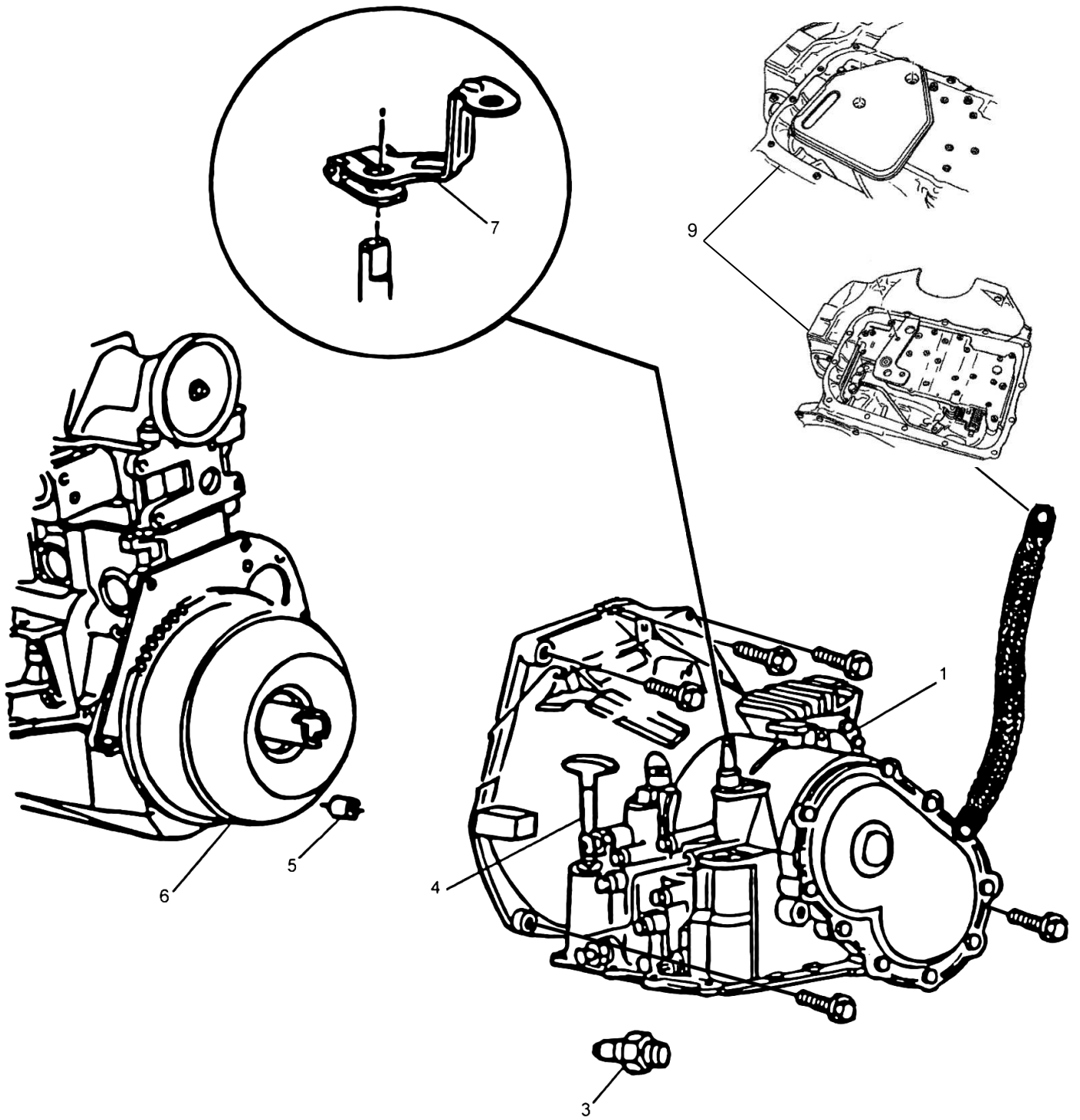
**Parts List**

When ordering replacement parts/kits, please specify model and serial number your unit.

Item	Part Number	Description	Qty
1	A-TT8-00201-2	TRANSMISSION OUTPUT YOKE SHAFT-REAR	1
2	A-TT4-00134	DRIVE SHAFT SPRING	1
3	A-TT4-00132-1	CROSS BEARING FRONT D/S NEW STYLE	1
4	AB-TT4-00130-1	DRIVE SHAFT	1
5	A-TT4-00130	END YOKE STRAP KIT	2
6	A-TT4-00137	CROSS BEARING REAR D/S NEW STYLE	1

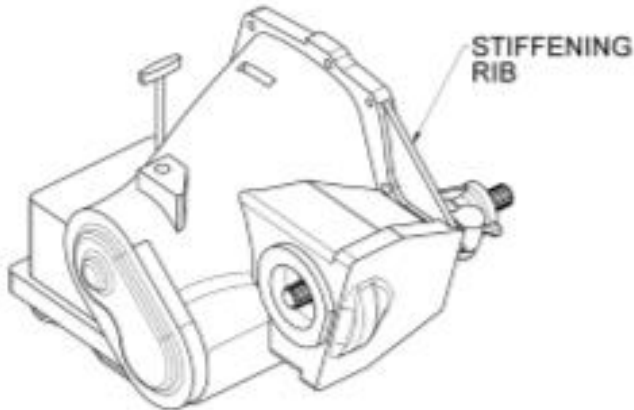
**10.0 TRANSMISSION**

**10.1 TRANSAXLE MOUNTING & MISC. PARTS (ALL TT4-8 MODELS)**

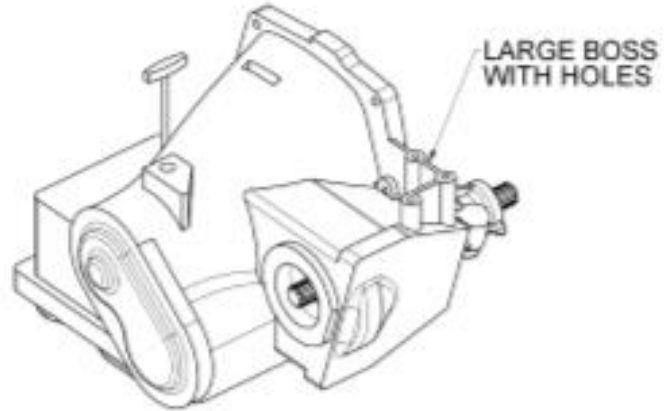


10.1 TRANSEXLE MOUNTING & MISC. PARTS (ALL TT 4-8 MODELS)

Transmission identification guideline:



"OLD" 2.2/2.5L BELL HOUSING



"NEW" 2.0/2.4L BELL HOUSING

**Parts List**

When ordering replacement parts/kits, please specify model and serial number your unit.

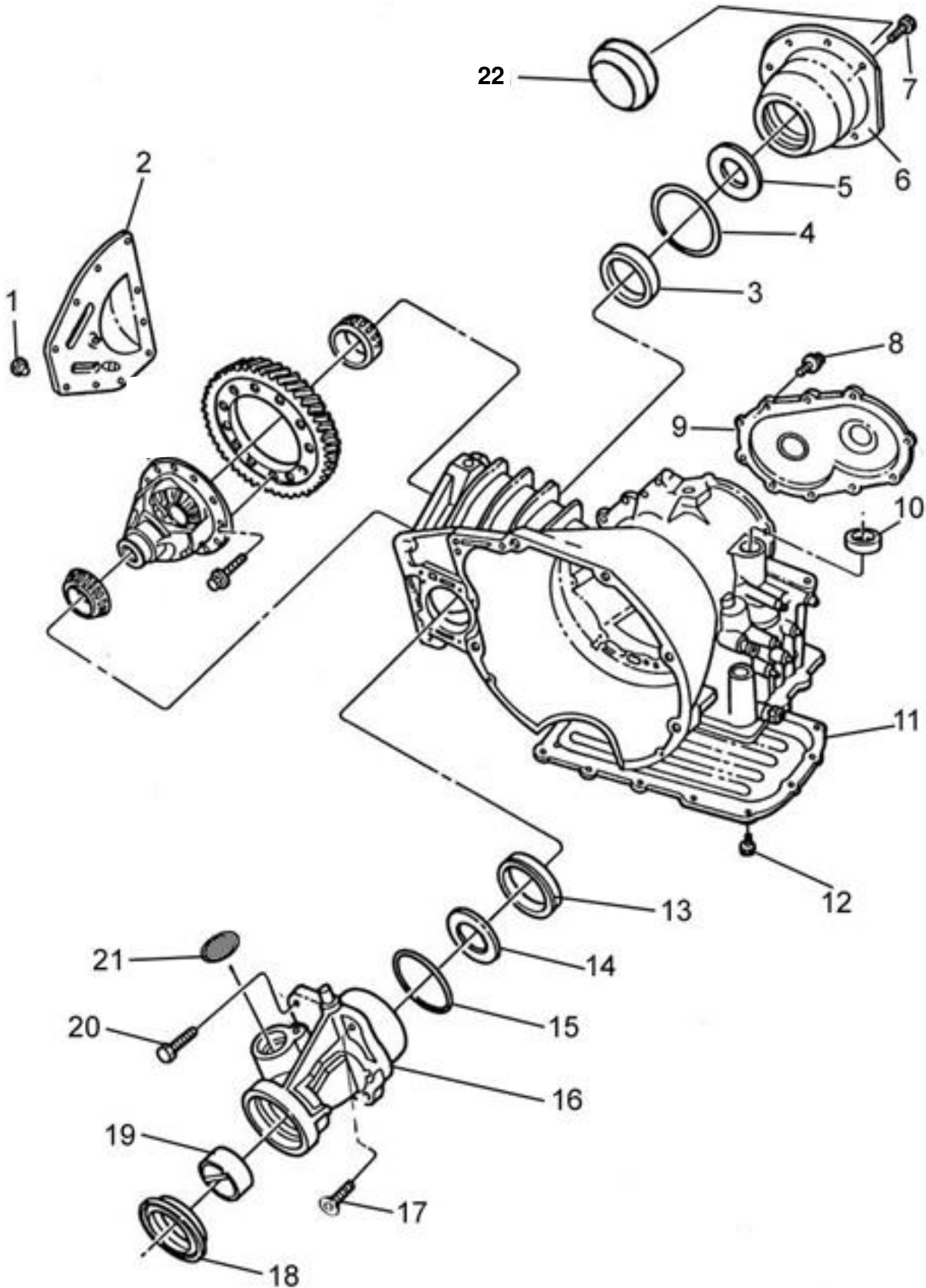
Item	Part Number	Description	Qty
1	SEE TABLE BELOW	A413 TRANSMISSION	1
2	A-TN4-00707	GROUND STRAP	1
3	3747361	SWITCH - NEUTRAL SAFETY AND BACKUP LIGHT	1
4	4856444 (2.2/2.5)	DIPSTICK - TRANSMISSION FLUID	1
	TT08-54-002-SA (2.0/2.2)	DIPSTICK - TRANSMISSION FLUID	1
5	5240849	DOWEL PIN - TRANS TO ADAPTOR/ENGINE ALIGNMENT	2
6	SEE NOTE*	TORQUE CONVERTER	1
7	A-TT4-00419	TRANSEXLE SHIFT LEVER - MANUAL CONTROL	1
9	85705	GASKET AND FILTER MAINTENANCE PACKAGE	1

\*Torque converters may vary. Please contact Eagle for further information.

Transmission replacement kit part numbers and application guide

Kit Number	Application
TT08-54-003-KA	TT4-8 Ford/TME-Gas/TME-Diesel/Yanmar AWD
TT08-54-004-KA	TT4-8 Isuzu/Chrysler AWD
TT08-54-005-KA	TT4-8 Ford/TME-Gas/TME-Diesel/Yanmar 2WD
TT08-54-006-KA	TT4-8 Isuzu/ Chrysler 2WD

10.2 TRANSAXLE CASE EXTENTION & RETAINER (ALL TT 4-8 MODELS)





10.2 TRANSAXLE CASE EXTENTION & RETAINER (ALL TT 4-8 MODELS)

**Parts List**

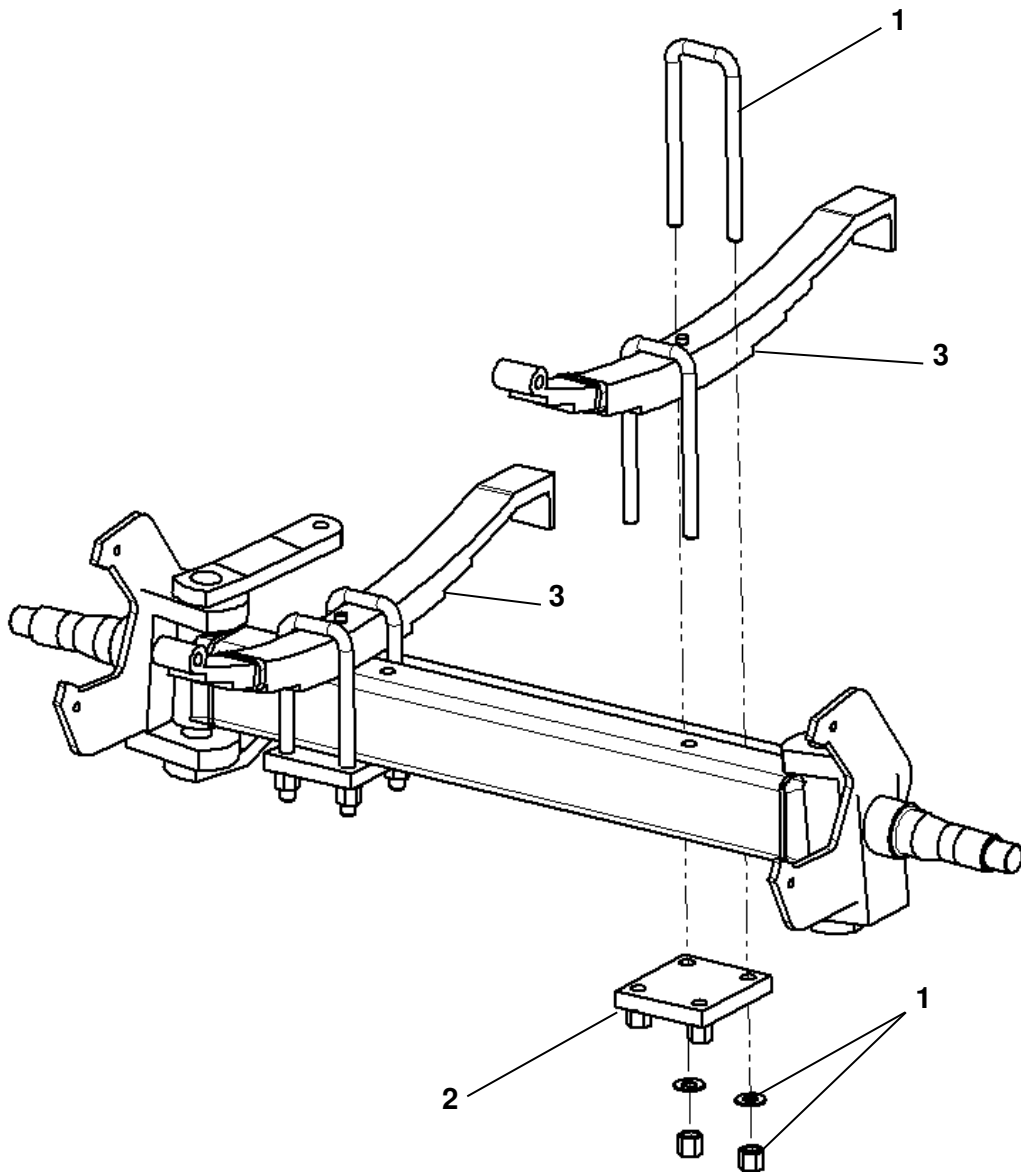
When ordering replacement parts/kits, please specify model and serial number your unit.

Item	Part Number	Description	Qty
1	6501474	SCREW-HEX CAP-WASH M8-1.25 X 16	10
2	4471574	PAN	1
3	NPN	CUP (NOT SOLD SEPARATELY)	1
4	4504568	SPACER KIT	1
5	4269787	RETAINER, OIL	1
6	4329829	RETAINER, BEARING	1
	6500368	SCREW-HEX CAP-M8 X 1.25 X 23	6
7	NPN	SCREW-HEX CAP-WASH HEAD M8-1.25 X 2	6
8	NPN	SCREW-HEX CAP M8-1.25 X 15	10
9	4659342	COVER, TRANS. END	1
	82180	RTV SEALANT	1
	6501474	SCREW-HEX CAP WASH M8-1.25 X 16	10
10	3878447	SEAL, MANUAL VALVE SHAFT	1
11	4471573	PAN, TRANSAXLE OIL	1
12	6501474	SCREW-HEX CAP WASH M8-1.25 X 16	12
	6101285	SCREW-HEX CAP-WASH M6-1 X 16	1
13	4567022	CUP	1
14	4567494	RETAINER	1
15	6500111	O-RING	1
16	A-TT5D-00011-MOD	*TRANSMISSION CONE	1
	6500511	SCREW-HEX CAP-WASH M8-1.25 X 33	4
17	NPN	M8 HEX HEAD SCREW	2
18	4412522	SEAL	1
19	NPN	BUSHING (SERVICED IN EXT.)	1
20	NPN	SCREW-HEX CAP WASH HEAD M8-1.25 X 30	4
21	A-TT4-00658	TRANS EXP PLUG	1
22	A-TT4-00657	TRANSMISSION PLUG (2WD ONLY)	1
N/S	3861601	FAN MAGNET	1

\*PLEASE HAVE TUG MODEL AND SERIAL NUMBER AVaiLABLE WHEN ORDERING THIS PART

11.0 AXLES

11.1 AXLE ASSEMBLY—BRIERTON FRONT NON-DRIVE TT4-TT6 2WD ONLY

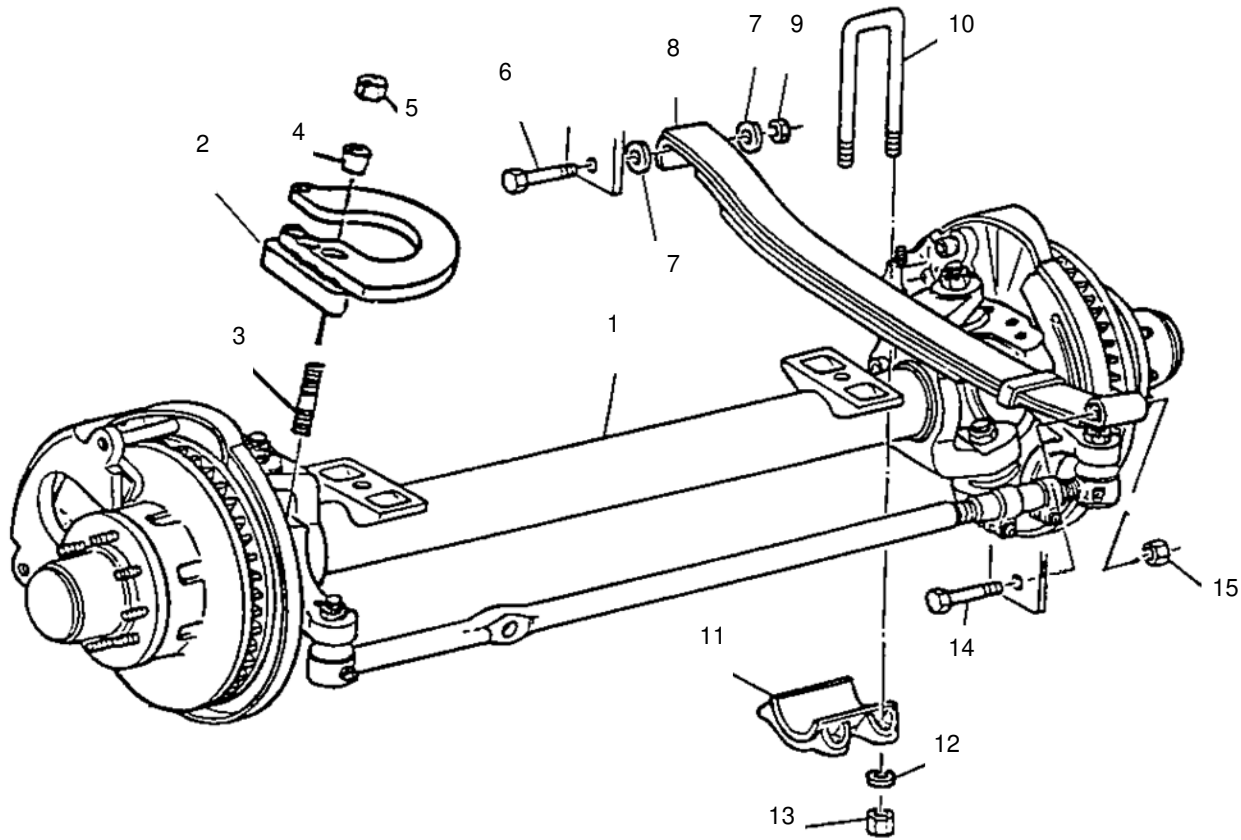


**Parts List**

When ordering replacement parts/kits, please specify model and serial number your unit.

Item	Part Number	Description	Qty
1	A-TT10-00117	U-BOLT KIT	4
2	A-TT4-00113	SPRING MOUNT PAD	2
3	A-TT4-00116	LEAF SPRING	2

11.2 AXLE ASSEMBLY - FRONT NON-DRIVE TT4-TT6 2WD ONLY



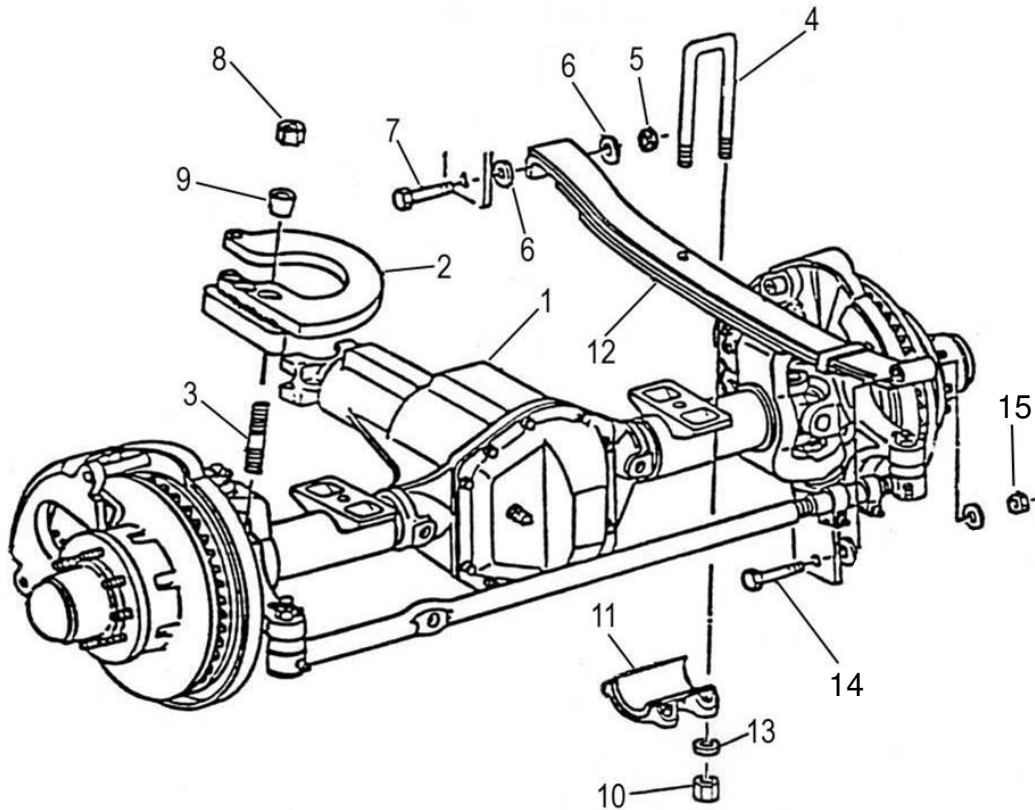
**Parts List**

When ordering replacement parts/kits, please specify model and serial number your unit.

Item	Part Number	Description	Qty
1	A-TT4-00111	AXLE ASSY-FRONT NON-DRIVE	1
2	C-TT4-00113-1-MACH	STEERING ARM - TT4-6 2WD	1
3	A-TT8-00115	STUD-STEERING ARM	3
4	3965138	BUSHING	3
5	NPN	HEX NUT, 9/16-18 UNF, GR 8	3
6	NPN	HCS, 3/8-16 UNC X 3.5, GR 8	2
7	NPN	FLAT WASHER, 3/8	4
8	A-TT4-00116	LEAF SPRING	2
9	NPN	LOCK NUT, 3/8-16 UNC	2
10	A-TT4-00362-1	U-BOLT KIT	4
11	A-TT4-00363	AXLE CLAMP PLATE	2
12	A-TT4-00366**	WASHER, U-BOLT	8
13	A-TT4-00365**	NUT, U-BOLT	8
14	NPN	HCS, 9/16-18 UNF X 3.5, GR 8	2
15	NPN	LOCK NUT, 9/16-18 UNF	2

\*\*INCLUDED IN U-BOLT KIT

11.3 AXLE ASSEMBLY - FRONT DRIVE (ALL WHEEL DRIVE)

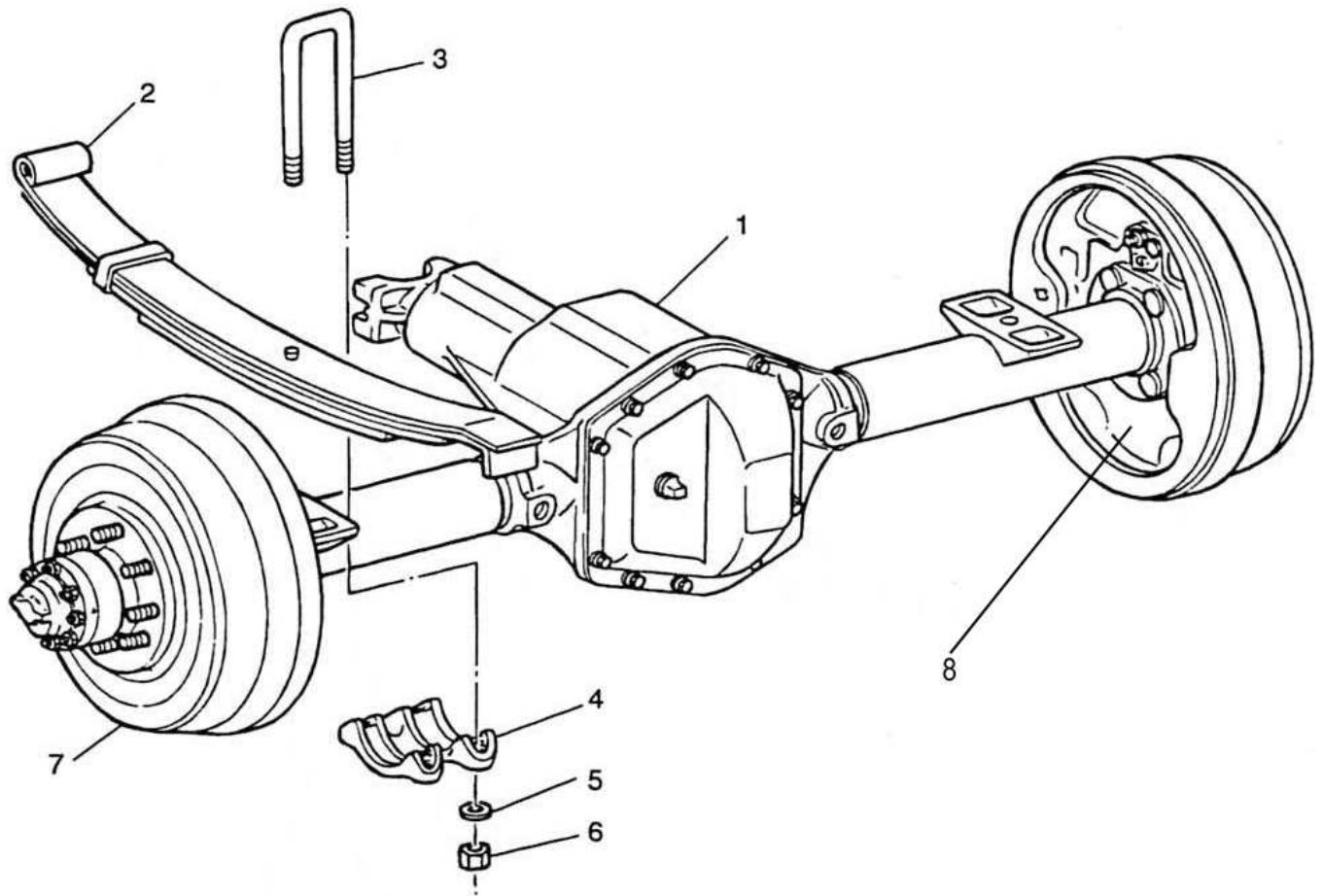


**Parts List**

When ordering replacement parts/kits, please specify model and serial number your unit.

Item	Part Number	Description	Qty
1	A-TT8-00371-A	FRONT DRIVE AXLE ASSEMBLY	1
2	C-TT4-00113-2-MACH	STEERING ARM - TT4-TT8/2 AWD	1
3	A-TT8-00115	STUD - STEERING ARM	3
4	TT08-04-004-CA	U-BOLT, TT4-8 AXLE, 7.625 LG	4
5	NPN	LOCK NUT, 3/8 X 16	4
6	NPN	FLAT WASHER, 3/8	4
7	NPN	HCS, 3/8-16 UNC X 3.5	4
8	NPN	NUT, 9/16-18, GR 8	3
9	3965138	BUSHING	3
10	A-TT4-00365	NUT, U-BOLT	8
11	TT08-04-003-SA	AXLE SADDLE CLAMP, TT4-8	2
12	A-TT4-00116	LEAF SPRING	2
13	A-TT4-00366	WASHER, U-BOLT	8
14	NPN	HCS, 9/16-18 UNF X 3.5, GR 8	2

11.4 AXLE ASSEMBLY—REAR (ALL TT4-8 MODELS)



**Parts List**

When ordering replacement parts/kits, please specify model and serial number your unit.

Item	Part Number	Description	Qty
1	A-TT4-00361**	REAR AXLE ASSEMBLY	1
2	A-TT4-00116	LEAF SPRING	2
3	A-TT4-00362-1	U-BOLT KIT	4
4	A-TT4-00363	AXLE CLAMP PLATE	2
5	A-TT4-00366*	WASHER	8
6	A-TT4-00365*	NUT	8
7	4313905	LEFT HAND BACKING PLATE	1
8	4313904	RIGHT HAND BACKING PLATE	1

\*INCLUDED IN U-BOLT KIT

\*\*Call eagle tugs for information if your tug is equipped with limited slip



11.5 RECOMMENDED TORQUE SPECIFICATIONS FOR DANA 44 AXLE (FRONT)

Position	Thread	Wrench Torque (lbs – Ft)
Drive Pinion Nut	3/4 - 16	175-225
Differential Bearing Cup Cap Screws	1/2 - 13	70-90
Ring Gear Cap Screws	3/8 - 24	45-65
Cover Screws	5/16 - 18	28-33 (Note A)
Axle Shaft Bearing & Brake Retainer Nuts	3/8 - 24	40-50
Spindle Mounting Nuts	3/8 - 24	40
Spindle Mounting Nuts	7/16 - 20	50-60
Tie Rod Stud Nut	1/2 - 20	35 Min (Note B)
Tie Rod Stud Nut	9/16 - 18	35 Min (Note B)
Tie Rod Clamp Nuts	3/8 - 24	15-25
Tie Rod Clamp Nuts	7/16 - 20	25-40
Steering Arm Nuts	9/16 / 18	80-100
Steering Bolt Stop Screw & Jam Nut	3/8 - 24	10-20

11.6 RECOMMENDED TORQUE SPECIFICATIONS FOR DANA 60 AXLE (REAR)

Position	Thread	Wrench Torque (lbs – Ft)
Drive Pinion Nut	7/8 - 14	240-300
Differential Bearing Cup Cap Screws	1/2 - 13	70-90
Ring Gear Cap Screws	1/2 - 20	100-120
Ring Gear Cap Screws	1/2 - 20	120-14 (Note A)
Cover Screws	3/8 - 16	30-40
Brake Retainer Nuts	7/16 - 20	64-70
Axle Shaft Flange Nuts	7/16 - 20	64-70
Upper Kingpin	1 1/8 - 12	500-600
Kingpin Cap Screws	1/2 - 20	70-90
Spindle Mounting Nuts	1/2 - 20	60-80
Tie Rod Stud Nut	5/8 - 18	70 Min (Note B)
Tie Rod Clamp Nuts	1/2 - 20	35-45
Steering Arm Nuts	1/2 - 20	70-90
Steering Bolt Stop Screw & Jam Nut	1/2 - 20	10-20

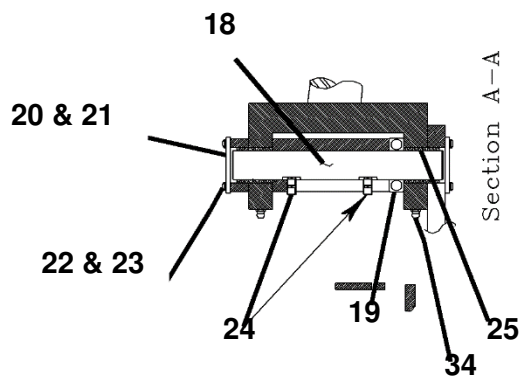
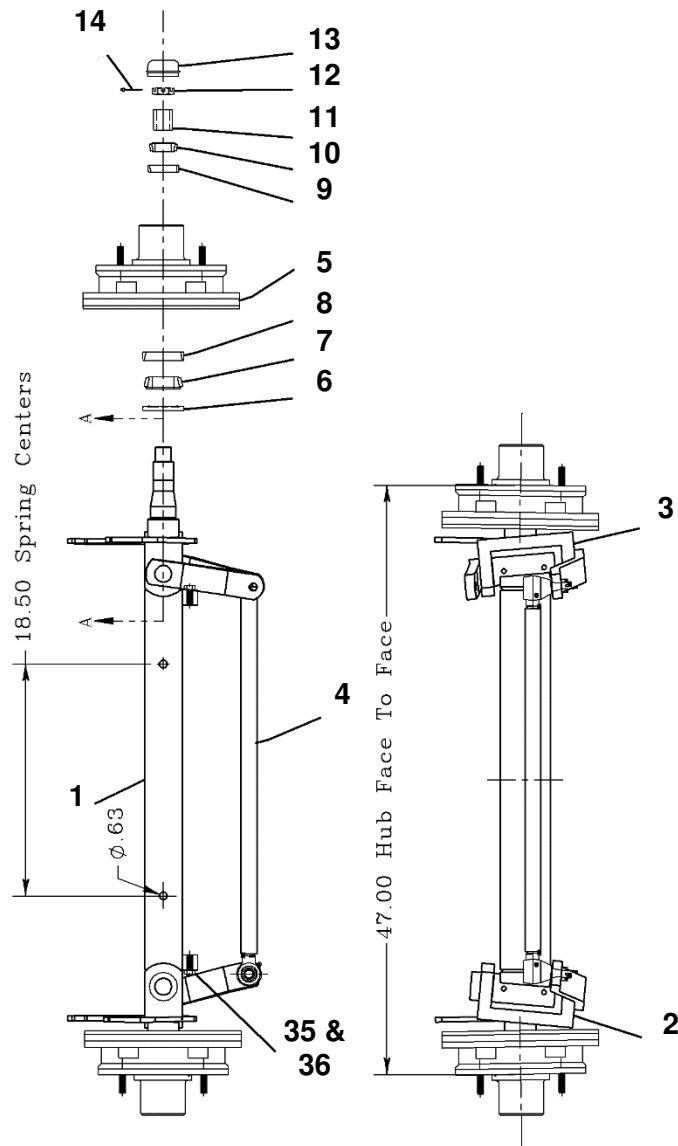
- A. For Grade 9 fastener with locking serrations on underside of cap screw head or nut.
- B. If cotter pin cannot be installed after minimum torque is attained, the nut must be advanced until cotter pin can be installed.



Models: TT-4, TT-5, TT-6, TT-8  
Yanmar Diesel 4TNV98 Engine

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11.7 AXLE ASSEMBLY BREAKDOWN - BRIERTON FRONT NON-DRIVE (2WD) ONLY





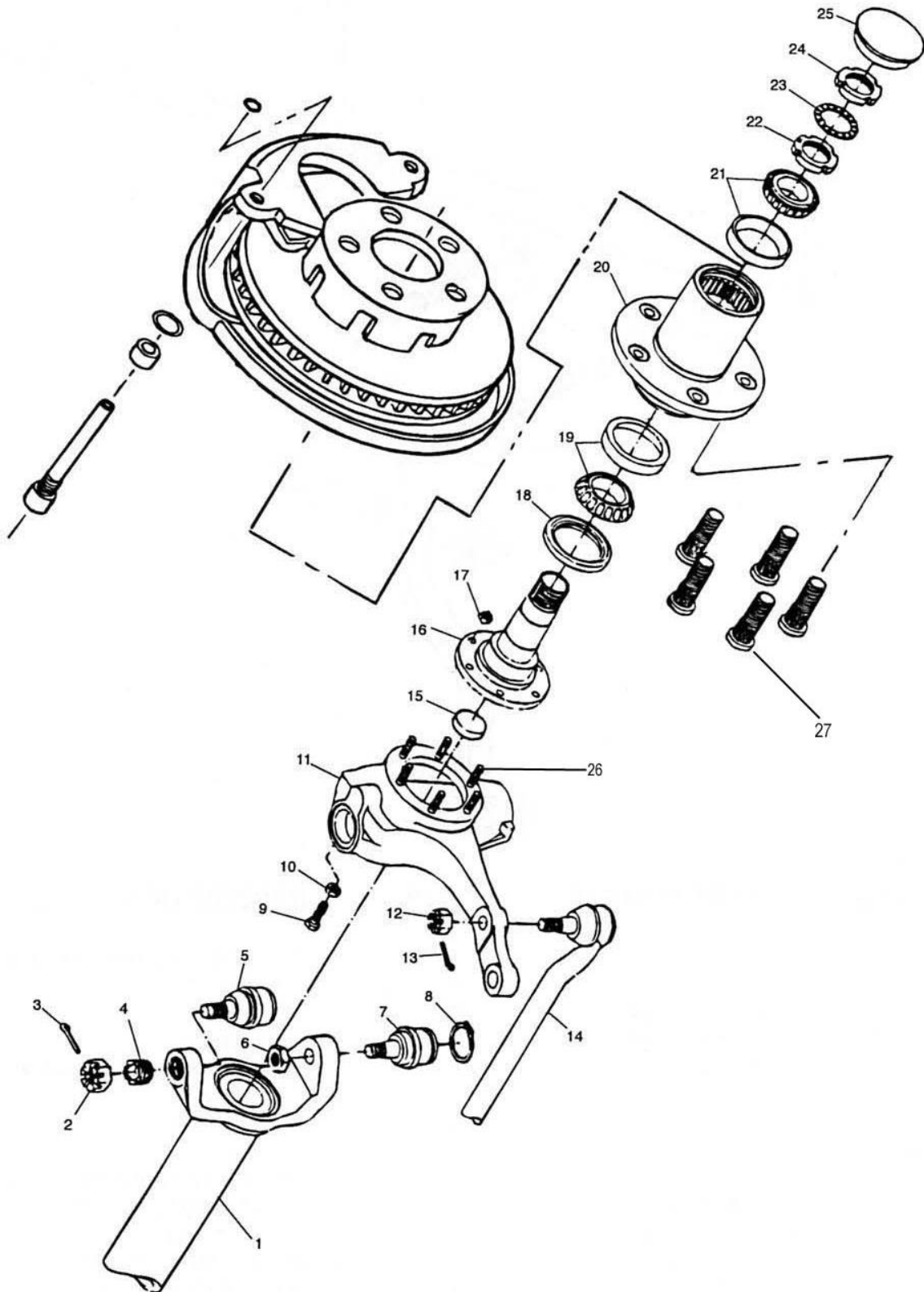
11.7 AXLE ASSEMBLY BREAKDOWN—BRIERTON FRONT NON-DRIVE (2WD) ONLY

**Parts List**

When ordering replacement parts/kits, please specify model and serial number your unit.

Item	Part Number	Description	Qty
1	03-30910	AXLE BEAM WELDMENT	1
2	03-30913	LH KNUCKLE WELDMENT	1
3	03-30912	RH KNUCKLE WELDMENT	1
4	02-21048	TIE ROD ASSEMBLY	1
5	06-61742	HUB & ROTOR	2
6	06-61779	OIL SEAL, CHICAGO RAWHIDE CR 24898	2
7	130513100	INNER CONE, TIMKEN LM104949	2
8	06-61794	INNER CUP, TIMKEN JLM104910	2
9	06-61795	OUTER CUP, TIMKEN LM501310	2
10	06-61781	OUTER CONE, TIMKEN LM501349	2
11	06-61756	SPINDLE NUT SPACER	2
12	323400160	NUT, 1.25-12 SLOTTED	2
13	06-61743	GREASE CAP, 044HK01	2
14	324604160	COTTER PIN	2
18	06-61688	KING PIN	2
19	06-60498	T126 THRUST BEARING	2
20	06-60547	KING PIN CAP STD	4
21	06-61376	KING PIN CAP GASKET	4
22	06-61080	10-24 BHC SCREW	8
23	06-61081	#10 LOCK WASHER	8
24	06-60811	3/8-16 SET SCREW	8
25	06-61721	KING PIN BUSHING	4
28	06-61746K RH	CALIPER RH	1
29	06-61747K LH	CALIPER LH	1
30	RD52	BRAKE PAD	1
32	06-61750	CALIPER MOUNTING BOLT	4
34	390406410	GREASE ZERK, 1/4-28 UNF	4
35	321800090	NUT, 1./2-13 HEX JAM	2
36	320224100	1.2-13 X 2 HHCS GR 5	2

11.8 AXLE ASSEMBLY BREAKDOWN - FRONT NON-DRIVE (2WD) ONLY





11.8 AXLE ASSEMBLY BREAKDOWN—DANA FRONT NON-DRIVE (2WD) ONLY

**Parts List**

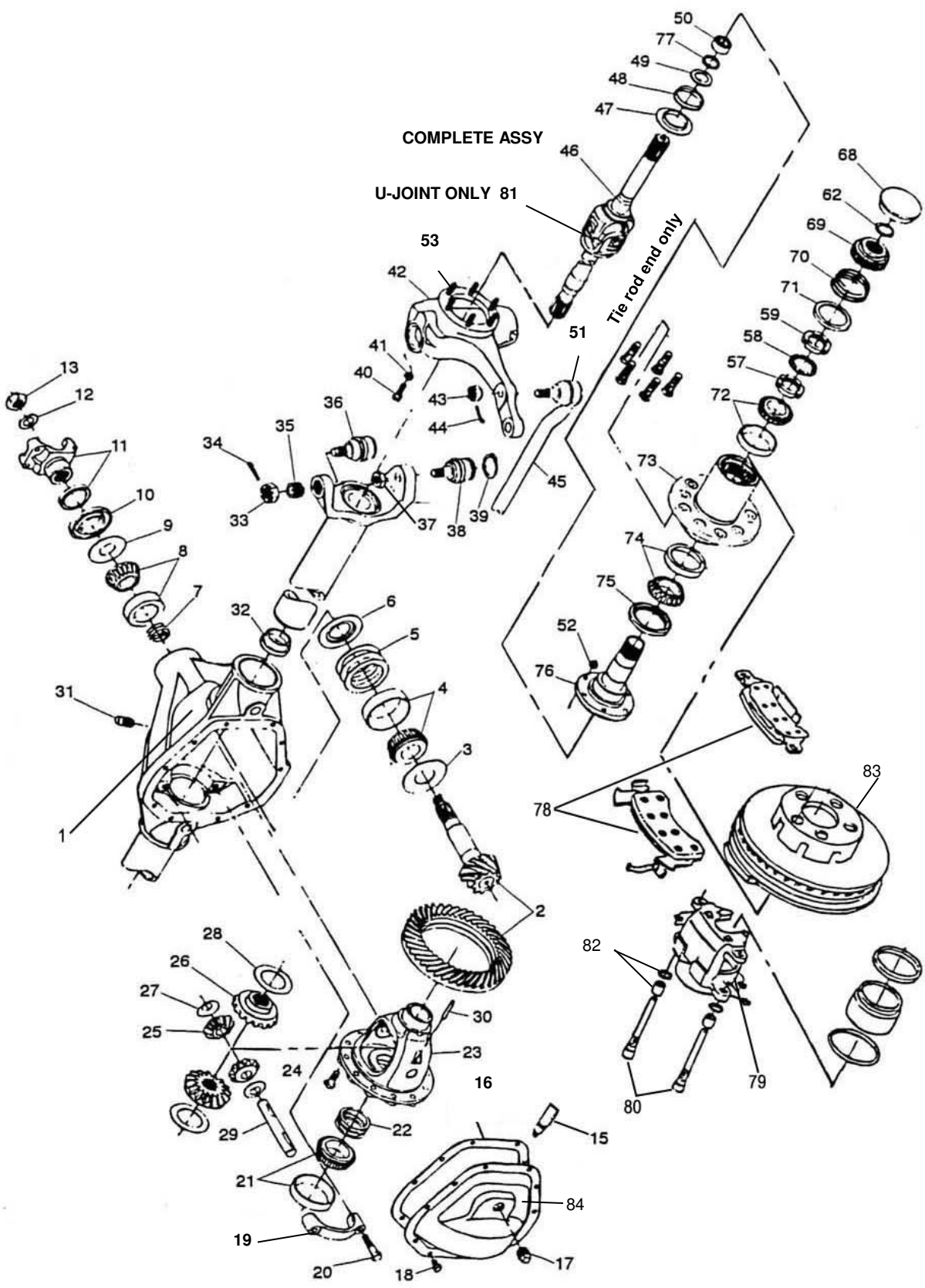
When ordering replacement parts/kits, please specify model and serial number your unit.

Item	Part Number	Description	Qty
1	29775-29X	TUBE ASSEMBLY	1
2	44101	NUT-SLOTTED	2
3	500024-8	PIN-COTTER	2
4	35417	RING-ADJUSTING	2
5	40112	SOCKET ASSEMBLY UPPER	1
6	35566	NUT-LOCK	2
7	40113	SOCKET ASSEMBLY LOWER	1
8	35928	RING-SNAP	1
9	31026-1	BOLT-STOP	2
10	500381-3	NUT-JAM	2
11	706652X	STEERING KNUCKLE R/H INCLUDES ITEMS 33-39 & 42	KIT
	706653X	STEERING KNUCKLE L/H INCLUDES ITEMS 33-39 & 42	KIT
12	44101	NUT-SLOTTED	2
13	500024-6	PIN-COTTER	2
14	044TR115-16X	TIE ROD ASSEMBLY	1
15	36544	PLUG-CAP	2
16	38428	SPINDLE-WHEEL BEARING	2
17	35704	NUT-LOCK	12
18	36361	SEAL-LOCK	2
19	706690-X	INNER WHEEL BEARING	KIT
20	044HU103	HUB & ROTOR ASSEMBLY	2
21	706111-X	OUTER WHEEL BEARING	KIT
22	21588X	SPINDLE NUT	2
23	36569	LK WASHER-WHEEL BRG NUT	2
24	31139	NUT-SPINDLE	2
25	31552	CAP-HUB	2
26	36326-2	STUD STEERING KNUCKLE	6
27	610286	WHEEL STUDS	8
N/S	044WC101-2	CALIPER ASSEMBLY R/H	1
N/S	044WC101-1	CALIPER ASSEMBLY L/H	1
N/S	044WB101-1	BRACKET ASSEMBLY-CALIPER L/H (INCLUDES DUST SHIELD)	1
N/S	044WB101-2	BRACKER ASSEMBLY-CALIPER R/H (INCLUDES DUST SHIELD)	1

Recommended tools:

- OTC 7157 To remove Front Axle Spindle Nut (Dana 44)
- OTC 7080 To remove Front Axle Top Ball Joint (Dana 44)
- OTC 1902 To remove Front & Rear Axle Spindle Nut (Dana 70)

11.9 AXLE ASSEMBLY BREAKDOWN —FRONT DRIVE (ALL WHEEL DRIVE)





11.9 AXLE ASSEMBLY BREAKDOWN —FRONT DRIVE (ALL WHEEL DRIVE)

**Parts List**

When ordering replacement parts/kits, please specify model and serial number your unit.

Item	Part Number	Description	Qty
1	A-TT8-00371-A	COMPLETE AXLE ASSEMBLY	1
2	22404X	GEAR & PINION ASSEMBLY	1
3	30764	SLINGER-PINION OIL INNER	1
4	706031X	INNER PINION BEARING	KIT
5	<del>706617X</del> (no longer available)	SHIM-PINION ADJ INC ITEMS 5,7,12,13,15,15A	KIT
6	30765	BAFFLE-PINION OIL	1
7	<del>706617X</del> (no longer available)	SEE ITEM 5	KIT
8	706030	OUTER PINION BEARING & RACE	KIT
9	13575	SLINGER-PINION OIL OUTER	1
10	39118	SEAL-OIL	1
11	345761X	END YOKE ASSEMBLY	1
12	30186	WASHER-PINION NUT	1
13	30185	NUT-PINION	1
15	82180	RTV SEALANT	AR
16	34685	GASKET	1
17	36472	PLUG-COVER PLATE	1
18	34279	SCREW-FLANGE HD	10
19	N/A	CAP DIFFERENTIAL BEARING, NOT SERVICED SEPERATELY	2
20	48632-1	1/2-13 X 2.25 GRD8 HEX BOLT	2
21	706032X	DIFFERENTIAL BEARING & RACE	KIT
22	706618X	DIFFERENTIAL SHIM INC ITEMS 22,15 &15A	KIT
23	25806X	CASE-DIFFERENTIAL ASSY	1
	32684	CASE-DIFFERENTIAL	1
24	41221	BOLT-DRIVE GEAR	10
25	17717	PINION-DIFFERENTIAL	2
26	706027X	GEAR-DIFF KIT INC ITEMS 15A & 24-29	2
27	13338-3	THRUST WASHER DIFFERENTIAL PINION	2
28	32121	THRUST WASHER DIFFERENTIAL GEAR	2
29	39194	SHAFT-DIFFERENTIAL	1
30	13449	PIN-ROLL	1
31	16979	VENT	1
32	36352	SEAL & GUIDE-SHAFT	2
33	44101	NUT-SLOTTED	2
34	500024-8	PIN-COTTER	2
35	35417	RING-ADJUSTING	2
36	40112-1	SOCKET ASSEMBLY-UPPER	1
37	35566	NUT-LOCK	2
38	40113-1	SOCKET ASSEMBLY-LOWER	1
39	35928	RING-SNAP	1



11.9 AXLE ASSEMBLY BREAKDOWN —FRONT DRIVE (ALL WHEEL DRIVE)

**Parts List**

When ordering replacement parts/kits, please specify model and serial number your unit.

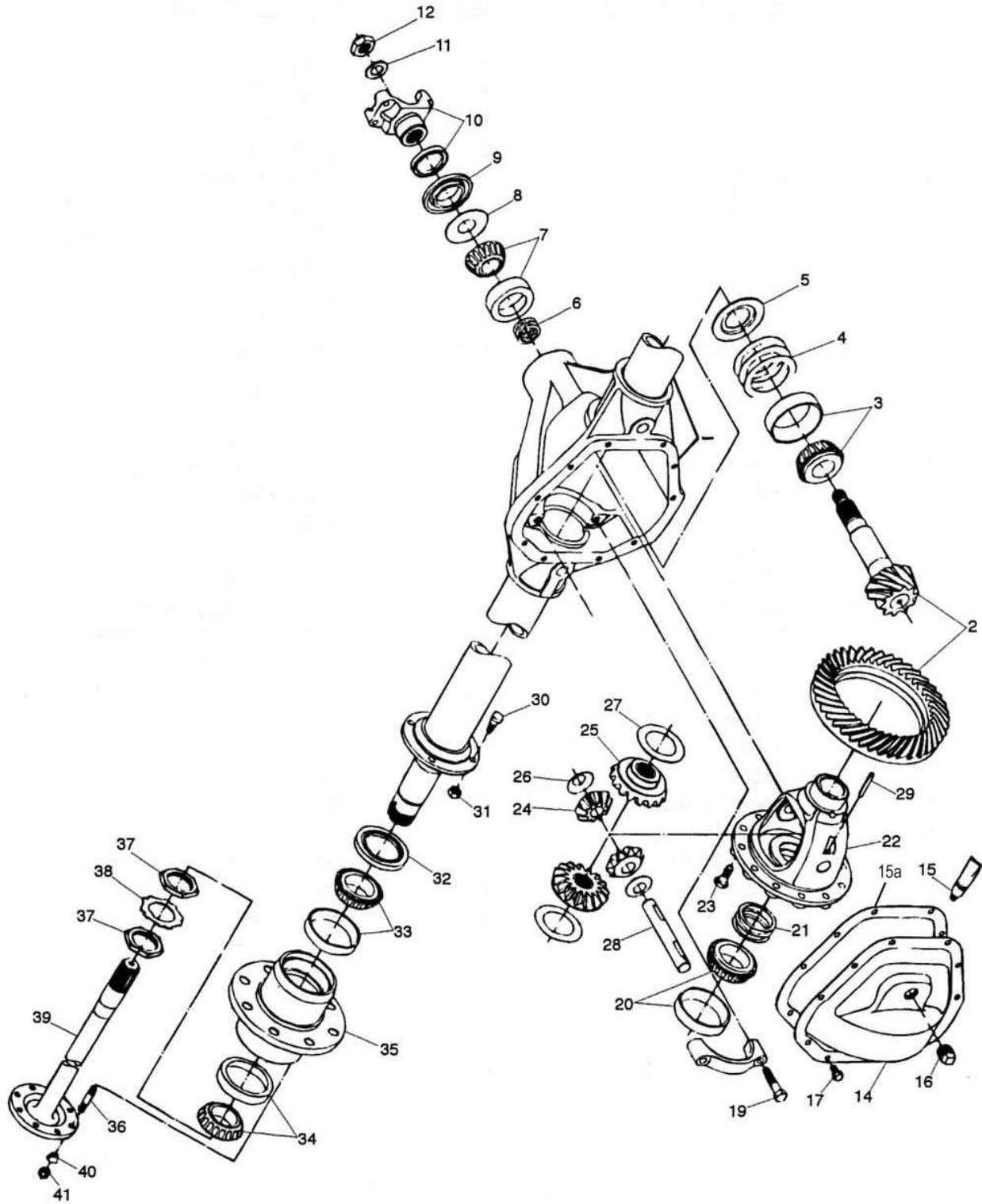
Item	Part Number	Description	Qty
40	310026-2	BOLT-STOP	2
41	500381-3	NUT-LOCK	2
42	706653X	STEERING KNUCKLE L/H, INCLUDES ITEMS 33-39,42 & 53	KIT
	706652X	STEERING KNUCKLE R/H, INCLUDES ITEMS 33-39,42 & 53	KIT
43	44101	NUT-SLOTTED	2
44	500024-4	PIN-COTTER	2
45	044TR115-16X	TIE ROD ASSEMBLY	1
46	660091-18	SHAFT & JOINT ASSY INC ITEM 47	2
47	36364	SLINGER	1
48	38128	SEAL-OIL	2
49	38106	SPACER	2
50	550759	BEARING-NEEDLE	2
51	044TR119	TIE ROD END ONLY FOR ITEM 45	2
52	500381-3	NUT-LOCK FOR ITEM 53	12
53	36326-2	STUD FOR ITEM 42	12
57	21588X	SPINDLE NUT	2
58	36569	LOCK-RETAINING NUT	2
59	31139	NUT-SPINDLE	2
62	31624	RING-SNAP	2
68	31552	CAP-HUB	2
69	42667	GEAR-AXLE DRIVE	2
70	35218	SPRING PRESSURE	2
71	32589	PLATE-SPRING RETAINING	2
72	706111X	OUTER WHEEL BEARING & RACE	KIT
73	044HU103	HUB & ROTOR ASSEMBLY	2
74	706690-X	INNER WHEEL BEARING & RACE	KIT
75	36366	AXLE SEAL	2
76	<del>706570</del> (no longer available)	SPINDLE ASSEMBLY INCLUDES ITEMS 48,49,50,77 & 76	KIT
	706527X	SPINDLE SEAL & BEARING INCLUDES ITEMS 50,77,48 & 49	KIT
77	36361	SEAL-OIL	1
78	RD52	BRAKE PAD SET	1 SET
79	18009659	CALIPER WITHOUT PADS -R/H	1
	18009658	CALIPER WITHOUT PADS-L/H	1
	044WC101-1	CALIPER ASSY WITH PADS L/H	1
	044WC101-2	CALIPER ASSY WITH PADS R/H	1
80	5468226	ANCHOR BOLTS	1SET
81	5-297-1X	GREASABLE U-JOINT FOR ITEM 46	2
82	H5539	CALIPER BUSHING AND O-RING KIT	1
83	BD60427	ROTOR	2
84	22150X	COVER ASSEMBLY	1



Models: TT-4, TT-5, TT-6, TT-8  
Yanmar Diesel 4TNV98 Engine

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11.10 AXLE ASSEMBLY BREAKDOWN —REAR DRIVE





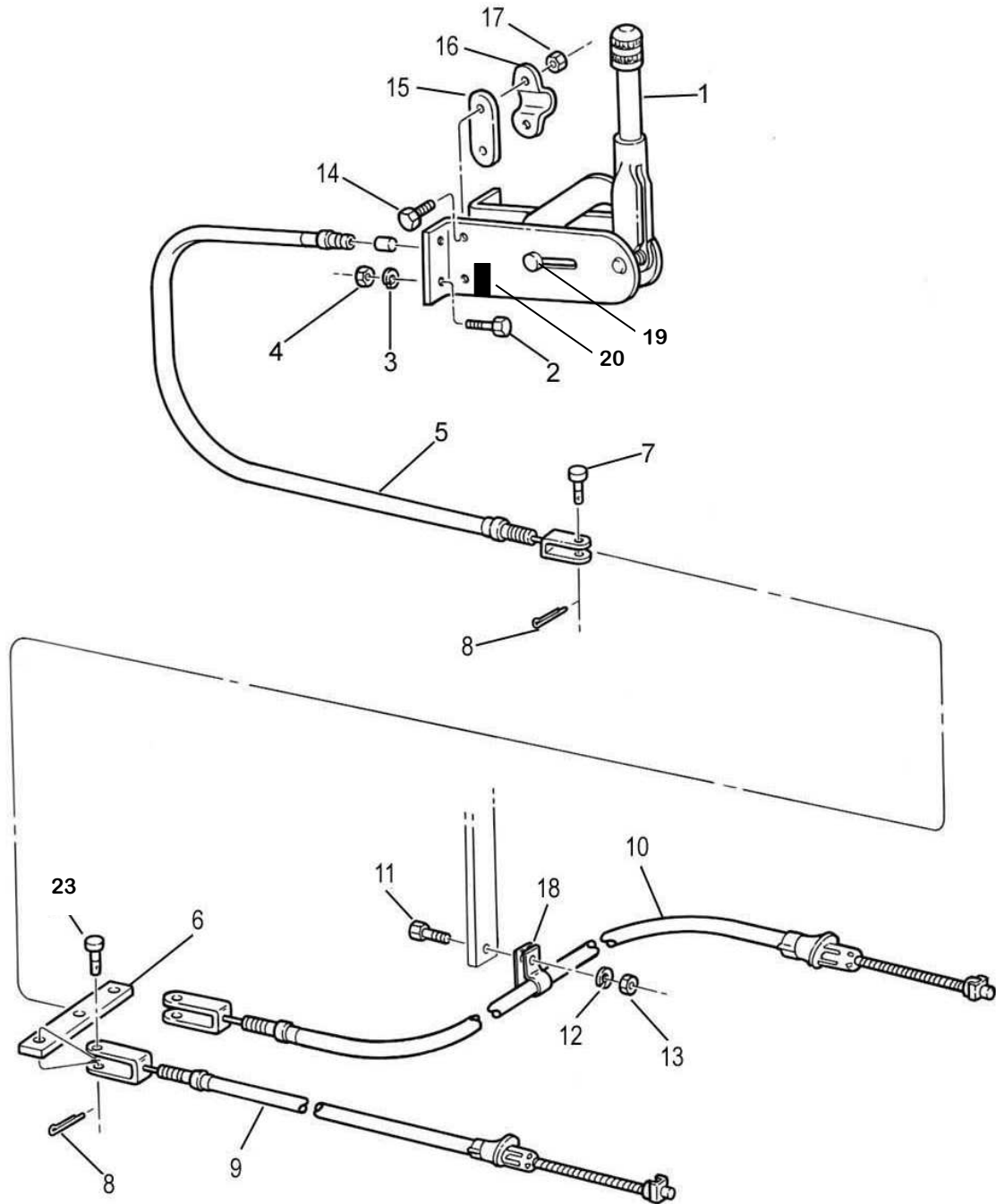
11.10 AXLE ASSEMBLY BREAKDOWN —REAR DRIVE

**Parts List**

When ordering replacement parts/kits, please specify model and serial number your unit.

Item	Part Number	Description	Qty
1	A-TT4-00361	COMPLETE AXLE ASSEMBLY	1
2	706033-10X	DRIVE GEAR & PINION	KIT
3	706046X	INNER PINION BEARING & RACE	KIT
4	706672X	SHIM-DRIVE PINION ADJUSTING	KIT
5	30765	BAFFLE-PINION BEARING	1
6	706672X	SHIM-PINION BEARING ADJUSTING	KIT
7	706045X	OUTER PINION BEARING & RACE	KIT
8	30273	SLINGER-PINION BEARING	1
9	38427	SEAL-PINION	1
10	345731X	END YOKE ASSEMBLY	1
11	30275	WASHER-PINION NUT	1
12	30271	NUT-PINION	1
14	707106X	COVER ASSEMBLY	1
15	82180	RTV SEALANT	
15a	34687	COVER GASKET	1
16	98785	PLUG-PIPE SLOTTED	1
17	34822	SCREW-FLANGE HD	10
18	39697	AXLE SHAFT GASKET	1
19	48632-1	1/2-13 x 2.25 GRD8 BOLT BEARING CAP	2
20	706047X	BEARING & RACE	KIT
21	706673X	SHIM-DIFFERENTIAL BEARING	KIT
22	706669X	CASE-DIFFERENTIAL	KIT
23	30266	BOLT-DRIVE GEAR	10
24	ITEM 43 OR 44	PINION-DIFFERENTIAL	KIT
25	ITEM 43 OR 44	GEAR-DIFFERENTIAL	KIT
26	ITEM 43 OR 44	THRUST WASHER-PINION	KIT
27	ITEM 43 OR 44	THRUST WASHER-GEAR	KIT
28	ITEM 43 OR 44	SHAFT-DIFFERENTIAL	KIT
29	500598-21	LOCK-DIFFERENTIAL	1
30	36253	BOLT-BRAKE MANUFACTURING	8
31	36805	NUT-BRAKE MANUFACTURING	8
32	36240	SEAL-OIL	2
33	706071X	INNER WHEEL BEARING	KIT
34	706072X	OUTER WHEEL BEARING	KIT
35	060HU101-1X	HUB & DRUM ASSEMBLY	2
36	36847	STUD-HUB	8
37	30636	NUT-SPINDLE	4
38	30637	LOCK WASHER WHEEL BEARING	2
39	34887-7	SHAFT-AXLE FLANGE LONG	1
	34887-10	SHAFT-AXLE FLANGE SHORT	1
40	31534	ADAPTER-STUD	16
41	36805	NUT-LOCK	24
42	16979	VENT	1
43	706671X	DIFF PARTS (STD) INC 15, 21-23, 29	1
44	707084X	DIFF PARTS (LTD SLIP) INC 15, 21, 23, 24, 26, 28, 29, 43-48	1

12.0 BRAKES  
12.1 PARKING BRAKE ACTUATOR ASSEMBLY





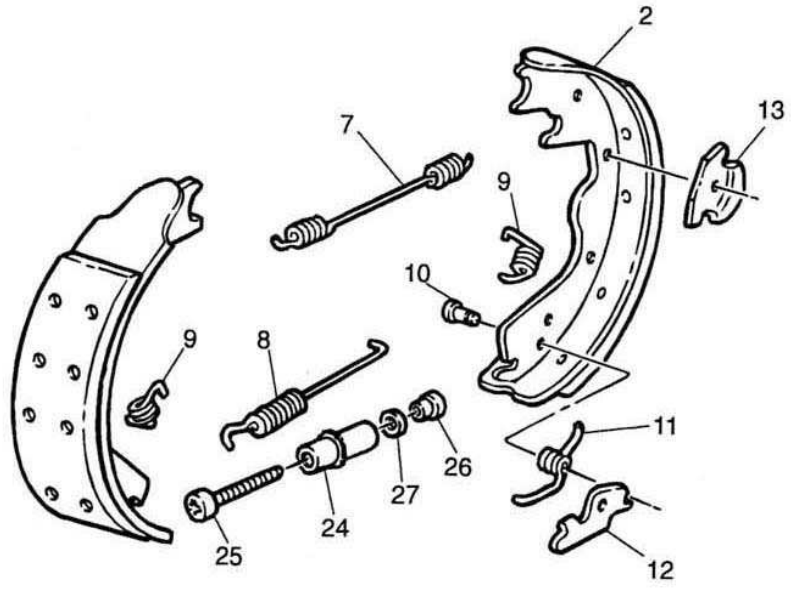
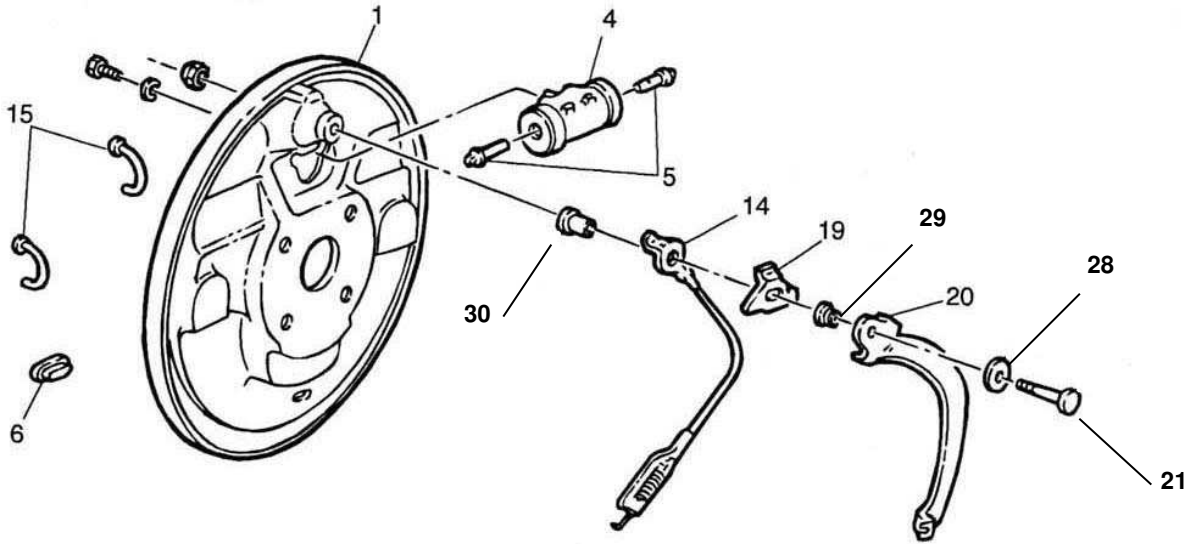
12.1 PARKING BRAKE ACTUATOR ASSEMBLY

**Parts List**

When ordering replacement parts/kits, please specify model and serial number your unit.

Item	Part Number	Description	Qty
1	A-TT4-00141	HAND BRAKE	1
2	NPN	SCREW-HEX CAP-5/16-18 X 1	4
3	NPN	WASHER-FLAT-5/16	4
4	NPN	NUT-LOCK-5/16-18	4
5	B-TT4-00145	CABLE PRIMARY	1
6	A-TT4-00146	BAR EQUALIZER	1
7	NPN	CLEVIS PIN	1
8	NPN	COTTER PIN	3
9	A-TT4-00151	PARKING BRAKE CABLE LEFT REAR	1
10	A-TT4-00150	PARKING BRAKE CABLE RIGHT REAR	1
11	NPN	SCREW-HEX CAP-14-20 X 1	1
12	NPN	WASHER-FLAT-1/4	1
13	NPN	NUT-LOCK-1/4-20	1
14	NPN	SCREW-HEX CAP-1/4-28 X 1	1
15	NPN	CABLE CLAMP PLATE	1
16	NPN	CABLE CLAMP HANDLE	1
17	NPN	NUT-LOCK-1/4-28	2
18	NPN	CABLE CLAMP	2
19	81008429	CONTACT PIN	1
20	Z-9940-1	KIT, PROXIMITY SENSOR REPLACEMENT	1
21	82066700	MOUNTING SCREW	1
22	AE-OPT-0069	HAND BRAKE "ON" WARNING (OPTIONAL)	1
23	NPN	CLEVIS PIN	2

12.2 DRUM BRAKE ASSEMBLY—REAR





12.2 DRUM BRAKE ASSEMBLY—REAR

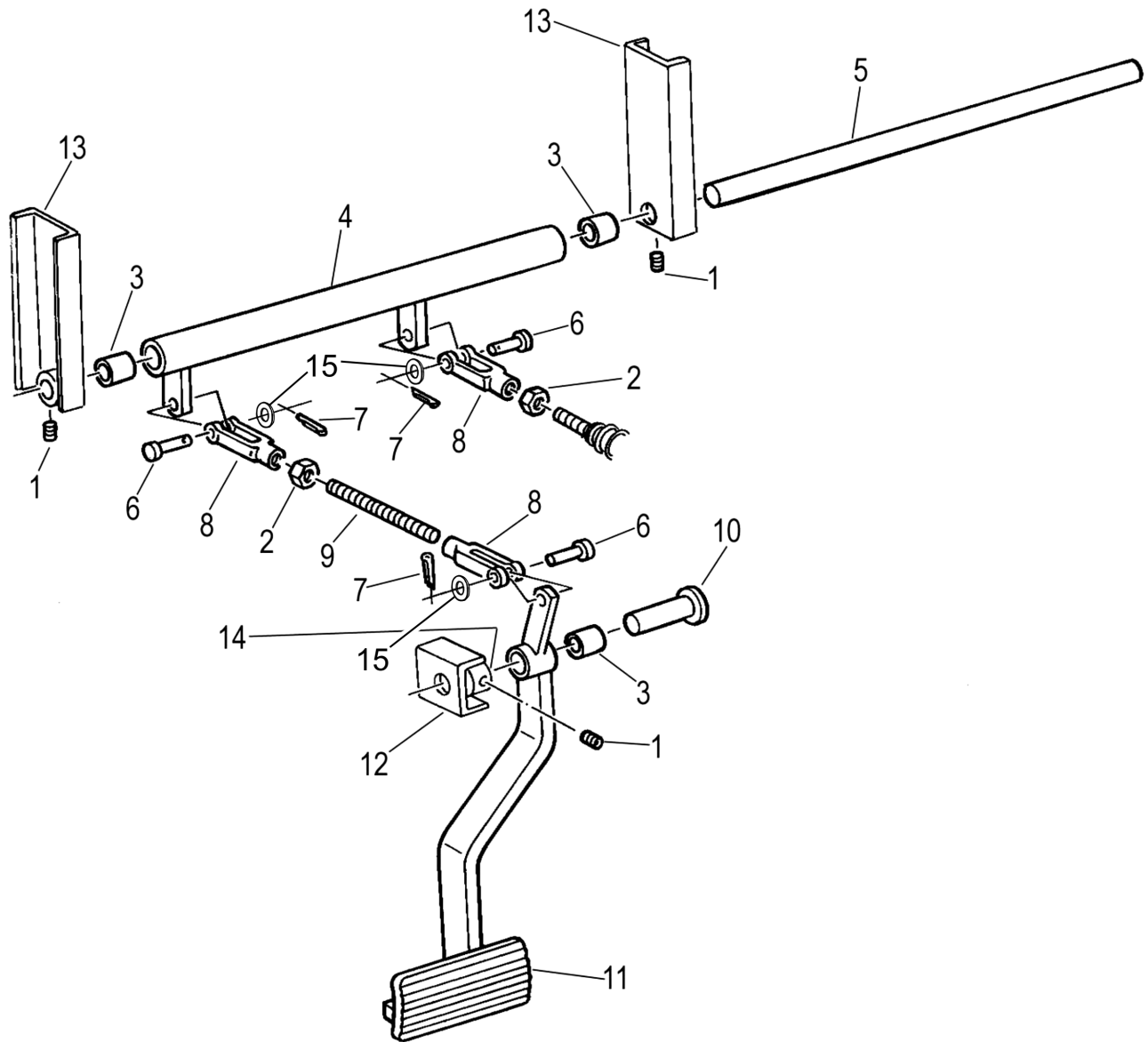
**Parts List**

When ordering replacement parts/kits, please specify model and serial number your unit.

Item	Part Number	Description	Qty
	060WD100	BRAKE ASSEMBLY L/H (CONTAINS ALL PARTS BELOW)	1
	060WD101	BRAKE ASSEMBLY R/H (CONTAINS ALL PARTS BELOW)	1
1	4313905	BACKING PLATE L/H	1
	4313904	BACKING PLATE R/H	1
2	FR357	SHOE & LINING SET	1 SET
4	2235585	CYLINDER ASSEMBLY L/H	1
	2235586	CYLINDER ASSEMBLY R/H	1
5	315834	WHEEL CYLINDERS CONNECTING LINK	2
6	*SEE KIT BELOW	COVER	1
7	*SEE KIT BELOW	SPRING-UPPER	1
8	*SEE KIT BELOW	SPRING-LOWER	1
9	*SEE KIT BELOW	SPRING-HOLD DOWN	2
10	*SEE KIT BELOW	PIN	1
11	*SEE KIT BELOW	SPRING TENSION	1
12	*SEE KIT BELOW	BRAKE ADJUSTING LINK	1
13	*SEE KIT BELOW	CABLE GUIDE	1
14	*SEE KIT BELOW	CABLE ASSEMBLY	1
15	*SEE KIT BELOW	SPRING-HOLD DOWN	2
19	4383299	PARKING BRAKE CAM L/H (NO LONGER AVAILABLE SEPARATE)	1
	4383298	PARKING BRAKE CAM R/H (NO LONGER AVAILABLE SEPARATE)	1
20	4383264	PARKING BRAKE LEVER (LEFT)	1
	4383265	PARKING BRAKE LEVER (RIGHT)	1
21	4419698	BRAKE ANCHOR BOLT	1
25	*SEE KIT BELOW	BRAKE ADJUSTING SOCKET L/H	1
25	*SEE KIT BELOW	BRAKE ADJUSTING SCREW L/H	1
26	*SEE KIT BELOW	BRAKE ADJUSTING SOCKET	1
27	*SEE KIT BELOW	WASHER FLAT	1
28	3492670	WASHER	1
29	3492656	SPRING	1
30	4383600	SPACER (NO LONGER AVAILABLE SEPARATE)	1
KIT	H2598	BRAKE ADJUSTING KIT INCLUDES ITEMS 6,10-14,20,24-27	LEFT
KIT	H2599	BRAKE ADJUSTING KIT INCLUDES ITEMS 6,10-14,20,24-27	RIGHT
KIT	H7146	BRAKE SPRING KIT INCLUDES ITEMS 7-9 & 15	LEFT OR RIGHT

\*\*KIT PARTS NOT SOLD SEPARATELY

12.3 BRAKE ACTUATOR ASSEMBLY





12.3 BRAKE ACTUATOR ASSEMBLY

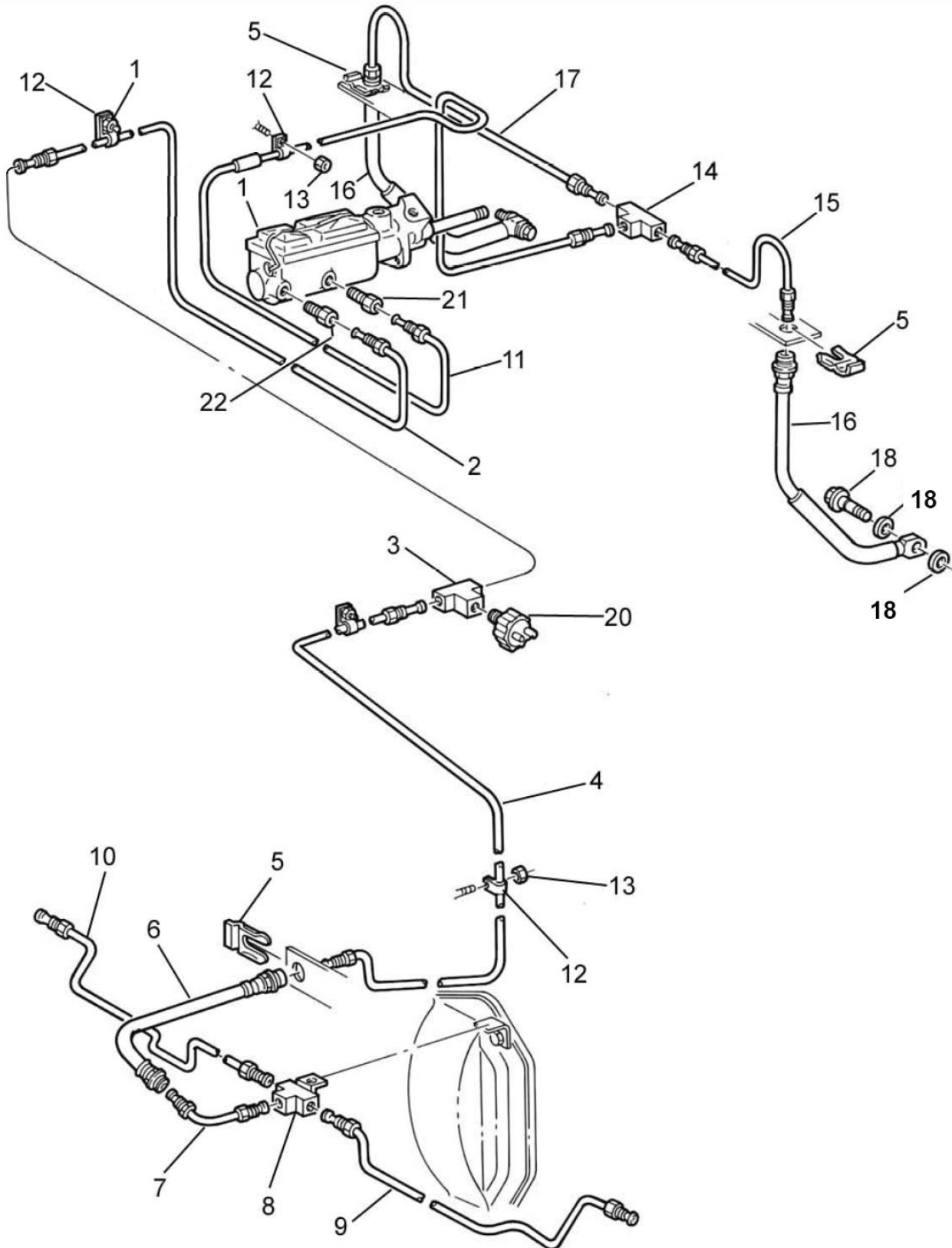
**Parts List**

When ordering replacement parts/kits, please specify model and serial number your unit.

Item	Part Number	Description	Qty
1	NPN	1/4-20 SET SCREW	4
2	NPN	1/2-20 NUT	2
3	C-TT4-10188	THOMSON NYLINER BEARING	3
4	C-TT4-10186	BELL CRANK	1
5	C-TT4-10187	BELL CRANK PIVOT SHAFT	1
6	A-TT4-00193	CLEVIS PIN	3
7	NPN	COTTER PIN	3
8	A-TT4-10192	CLEVIS	3
9	NPN	1/2-20 X 12 ADJUSTING ROD	1
10	C-TT4-10182	BRAKE PEDAL PIVOT SHAFT	1
11	C-TT4-10181	BRAKE PEDAL	1
12	NPN	BRAKE PEDAL PIVOT	1
13	NPN	BELL CRANK STANDOFF	2
14	A-TT2-0057*	SHAFT COLLAR 3/4	2
15	NPN	CLEVIS PIN WASHER	3

\*Welded to truck

12.4 BRAKE SYSEM—HYDRAULIC





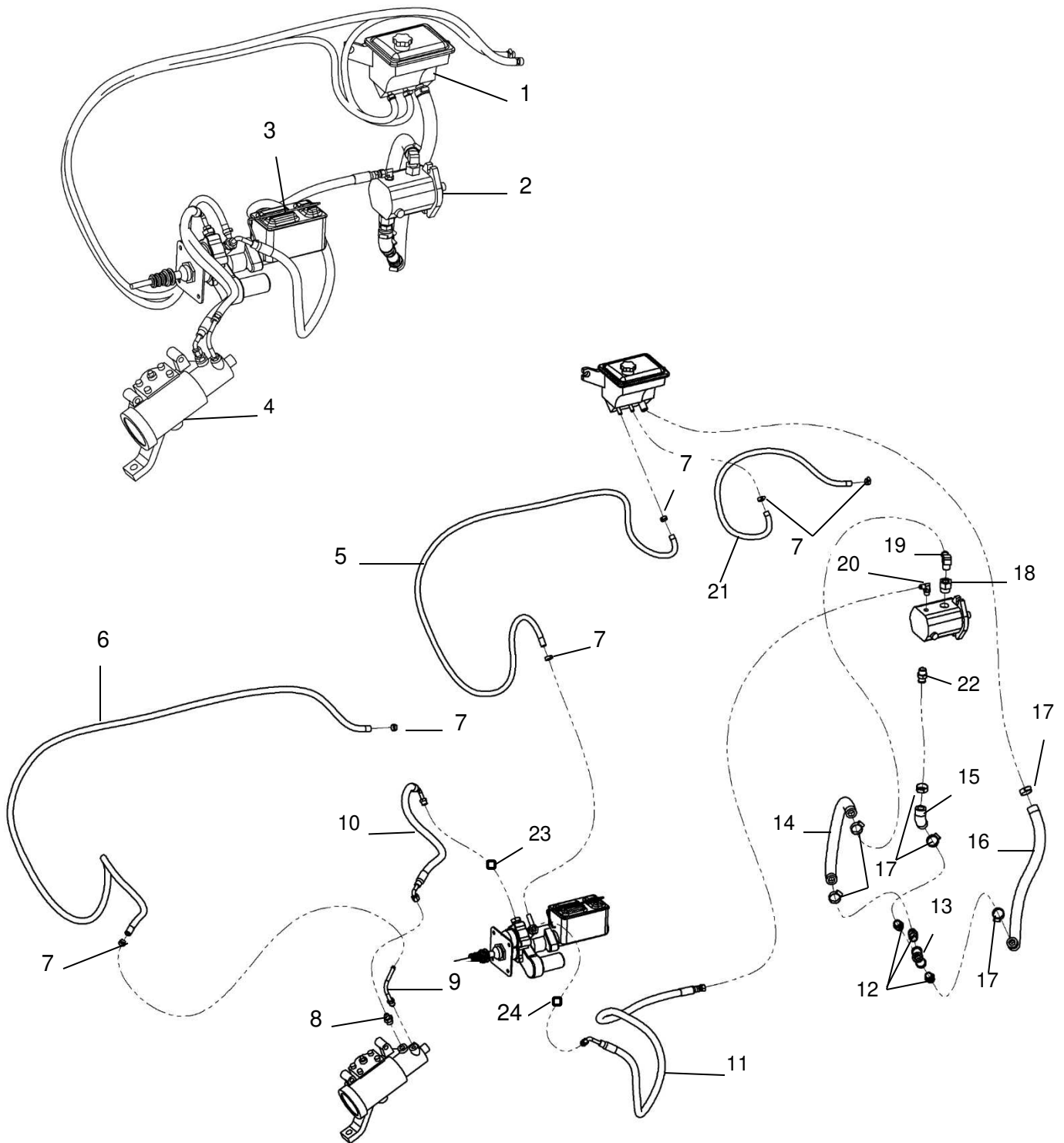
12.4 BRAKE SYSYEM—HYDRAULIC

**Parts List**

When ordering replacement parts/kits, please specify model and serial number your unit.

Item	Part Number	Description	Qty
1	A-TT4-00161-1	MASTER CYLINDER	1
2	A-TT4-00171	BRAKE LINE REAR	1
3	A-TT4-00163	BRAKE LIGHT SWITCH TEE	1
4	A-TT4Y-00164	BRAKE LINE REAR-REAR COOLING SYSTEM ONLY	1
	A-TT4W-00164-1	BRAKE LINE REAR-FRONT COOLING SYSTEM ONLY	1
5	A-TT4-00165	BRAKE HOSE CLAMP	3
6	A-TT4-00166	BRAKE HOSE REAR	1
7	A-TT4-00167	BRAKE LINE	1
8	A-TT4-00168	CROSS TEE	1
9	A-TT4-00169	BRAKE LINE REAR RT	1
10	A-TT4-00170	BRAKE LINE LEFT REAR LT	1
11	A-TT4-00162	BRAKE LINE MASTER CYLINDER	1
12	NPN	LINE CLAMP	4
13	NPN	NUT-10-32	4
14	A-TT4-00174	CROSS TEE	1
15	A-TT4-00175	BRAKE LINE FRONT RIGHT	1
16	A-TT4-00176-1	CALIPER BRAKE LINE	2
17	A-TT4-00177	BRAKE LINE FRONT LEFT	1
18	A-TT4-00178	BANJO BOLT & WASHER KIT	2
20	A-TT4-00173	BRAKE LIGHT SWITCH	1
21	A-TT5-00180	FITTING-MASTER CYLINDER ADAPTER	1
22	A-TT5-00181	FITTING-MASTER CYLINDER ADAPTER	1

**13.0 HYDRAULIC ASSIST**  
**13.1 HYDRAULIC ASSIST SYSTEM WITH PRINCE PUMP**





13.1 HYDRAULIC ASSIST SYSTEM WITH PRINCE PUMP

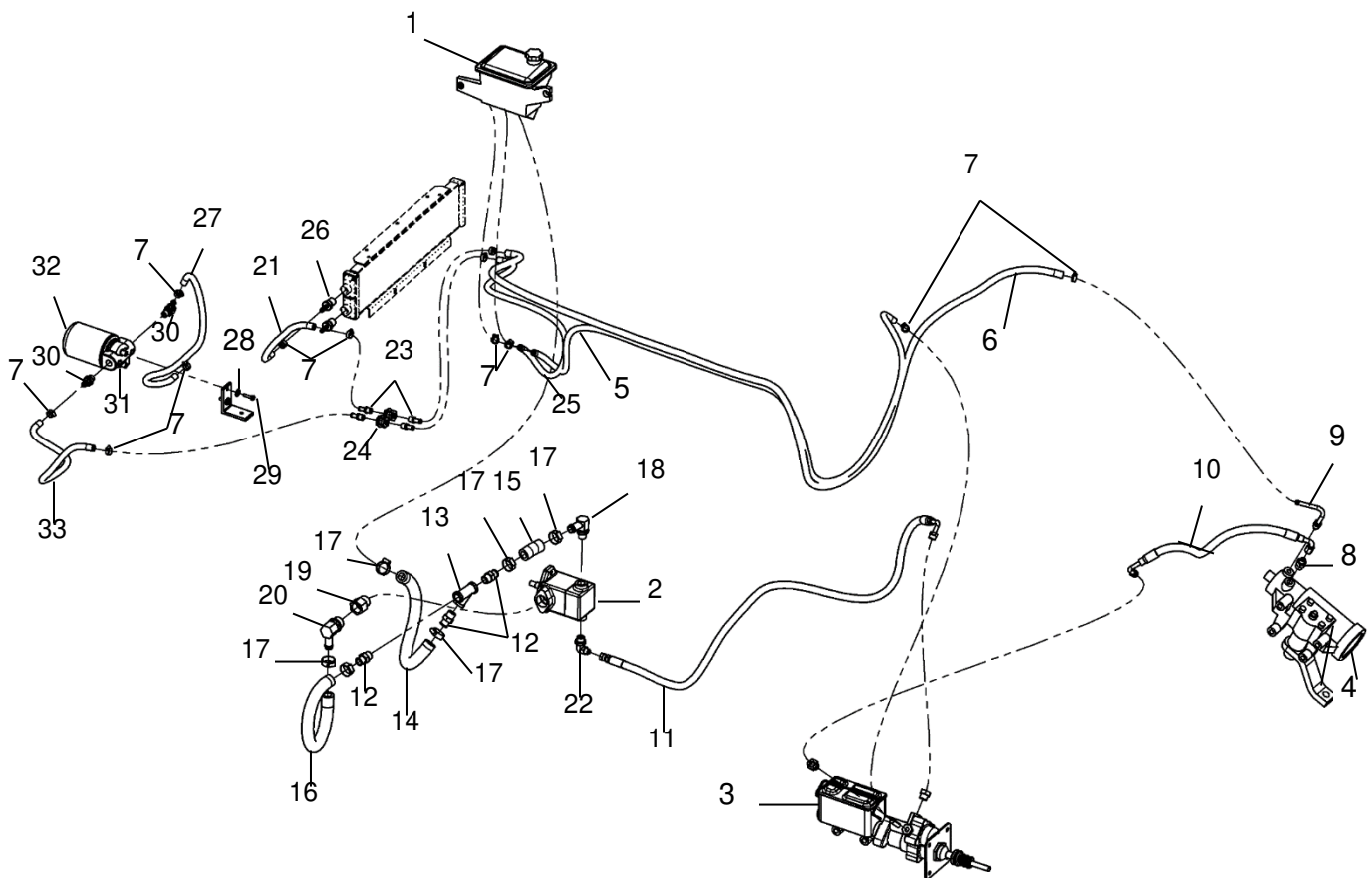
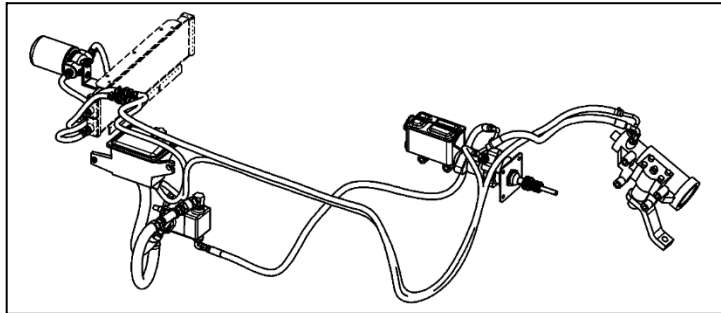
**Parts List**

When ordering replacement parts/kits, please specify model and serial number your unit.

Item	Part Number	Description	Qty
1	F81Z3A697BB	RESERVOIR POWER STEERING FLUID (REPLACED BY TT00-09-002-AA)	1
2	SP20PB11L145H9L	PRINCE PUMP (*DISCONTINUED)	1
3	A-TT4-00161-1	MASTER CYLINDER	1
4	A-TT4-00381	STEERING GEAR BOX	1
5	H10106	3/8 HYDRAULIC HOSE WK PSI 350 110"	1
6	H10106	3/8 HYDRAULIC HOSE WK PSI 350 126"	1
7	NPN	# 4 HOSE CLAMP	6
8	A-TT4-00213	METRIC PORT ADAPTER	1
9	A-TT4-00204	RETURN LINE EXTENDER	1
10	K-5385	HOSE KIT, TT STEERING (CONTAINS 2 HOSES)	1
11			
12	A-TT4-00606-1A	FITTING MALE COUPLING	3
13	A-TT4-00606-1	Y FITTING BLACK IRON	1
14	12GMV MEGA VAC	3/4 SUCTION HOSE 24"	1
15	12GMV MEGA VAC	3/4 SUCTION HOSE 3"	1
16	12GMV MEGA VAC	3/4 SUCTION HOSE 21"	1
17	NPN	#12 HOSE CLAMPS	6
18	C3269X12X8	FEMALE PIPE ADAPTER	1
19	269HB-12-8	ELBOW 3/4 X 1/2	1
20	C5515X6	FITTING, ELBOW 3/8 X 3/8	1
21	H10106	3/8 HYDRAULIC HOSE WK PSI 350 48"	1
22	05TB-12-12	12 SAE ORB M, .75 HOSE BARB	1
23	N-3115-06-06	ADAPTER, 5/8-18 INV FLARE TO -6 AN	1
24	N-3115-06-07	ADAPTER, 11/16-18 INV FLARE TO -6 AN	1

\* See pump system layout at the end of this section for replacement components on units built 6/2020 and later

13.2 HYDRAULIC ASSIST SYSTEM WITH METARIS PUMP





13.2 HYDRAULIC ASSIST SYSTEM WITH METARIS PUMP

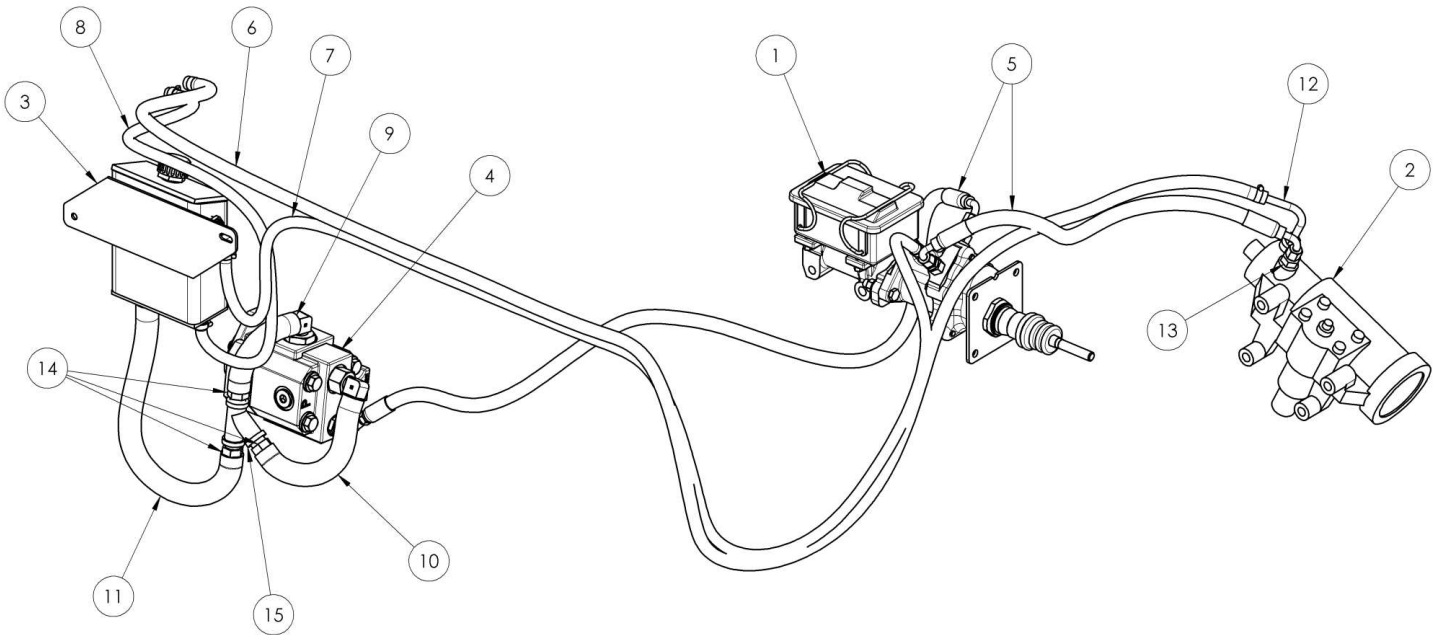
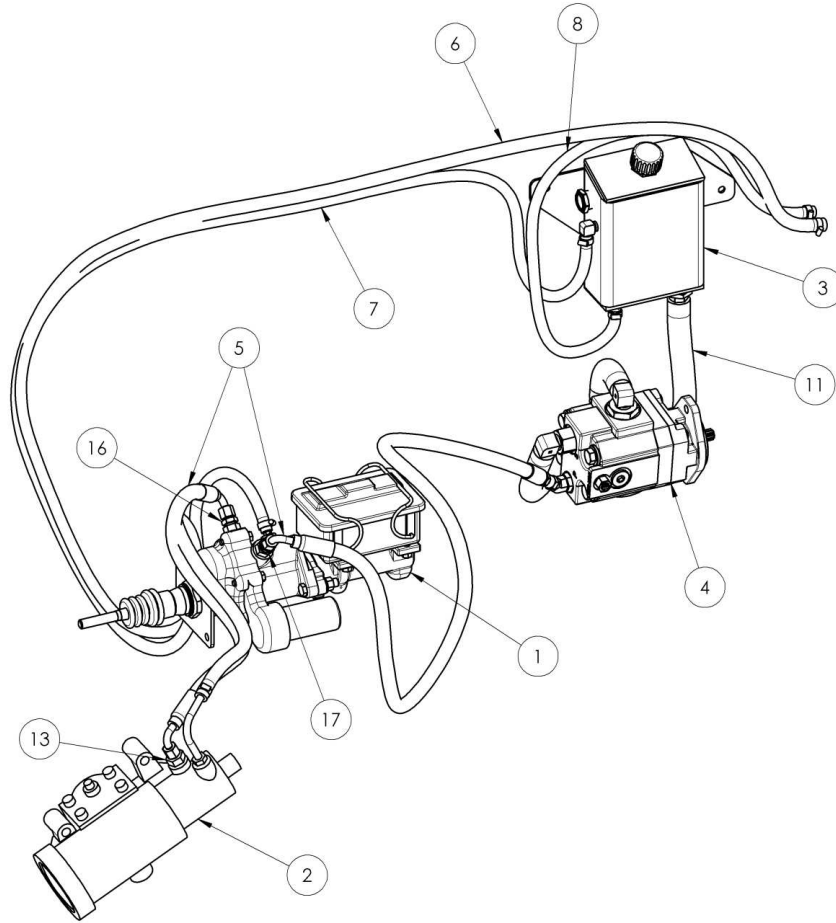
**Parts List**

When ordering replacement parts/kits, please specify model and serial number your unit.

Item	Part Number	Description	Qty
1	F81Z3A697BB	RESERVOIR POWER STEERING FLUID (REPLACED BY TT00-09-002-AA)	1
2	V10F1T3T11C3F20L	METARIS PUMP (*DISCONTINUED)	1
3	A-TT4-00161-1	MASTER CYLINDER	1
4	A-TT4-00381	STEERING GEAR BOX	1
5	H10106	3/8 HYDRAULIC HOSE WK PSI 350 100"	1
6	H10106	3/8 HYDRAULIC HOSE WK PSI 350 114"	1
7	NPN	# 4 HOSE CLAMP	9
8	A-TT4-00213	METRIC PORT ADAPTER	1
9	A-TT4-00204	RETURN LINE EXTENDER	1
10	K-5385	HOSE KIT, TT STEERING (CONTAINS 2 HOSES)	1
11			
12	A-TT4-00606-1A	FITTING MALE COUPLING	3
13	A-TT4-00606-1	Y FITTING BLACK IRON	1
14	12GMV MEGA VAC	3/4 SUCTION HOSE 20"	1
15	12GMV MEGA VAC	3/4 SUCTION HOSE 3"	1
16	12GMV MEGA VAC	3/4 SUCTION HOSE 21.5"	1
17	NPN	#12 HOSE CLAMPS	6
18	4601-12-08	1/2 M SAE 3/4 SUCTION BARB 90 DEG FITTING	1
19	7033X14X12	7/8 M SAE 3/4 F SAE FITTING	1
20	25TB-12-12	3/4 M SAE 3/4 SUCTION BARB 90 DEG FITTING	1
21	H10106	3/8 HYDRAULIC HOSE WK PSI 350 20"	1
22	C5515X6X8	1/2 M SAE M JIC 37 FITTING	1
23	05706B-104	FITTING 3/8 X 1/4	4
24	A-TT4-00280	BULKHEAD FITTING	2
25	H10106	3/8 HYDRAULIC HOSE WK PSI 350 36"	1
26	10506B-108	FITTING, PUSH ON 06 TO 1/2M	2
27	H10106	3/8 HYDRAULIC HOSE WK PSI 350 33"	1
28	NPN	1/4 LOCK WASER	1
29	NPN	1/4-20 X 3/4 BOLT	1
30	4312-06-08	STRAIGHT BARB 1/2"	2
31	SAF-05-25-0	FILTER HEAD	1
32	SF-6520	FILTER ELEMENT	1
33	H10106	3/8 HYDRAULIC HOSE WK PS1350 33"	1

\* See pump system layout at the end of this section for replacement components on units built 6/2020 and later

13.3 HYDRAULIC ASSIST SYSTEM FOR UNITS BUILT 6/2020 AND LATER





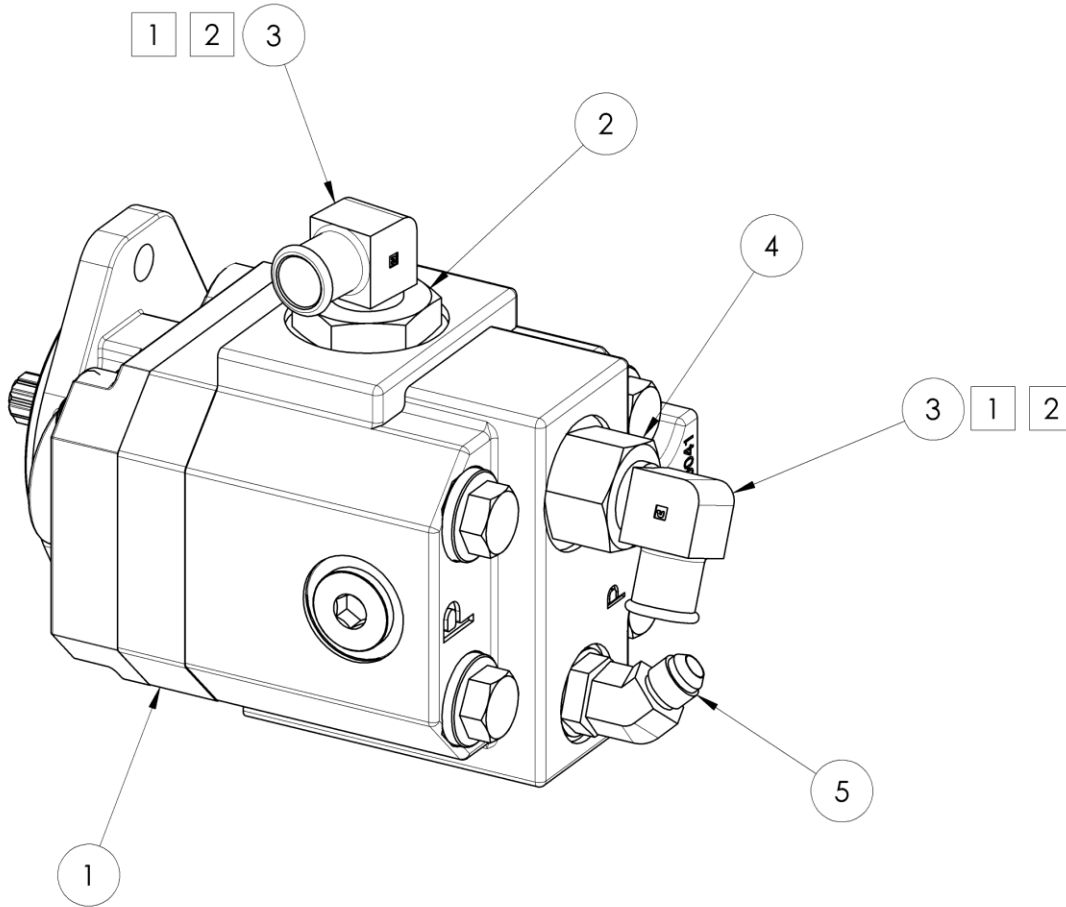
13.3 HYDRAULIC ASSIST SYSTEM FOR UNITS BUILT 6/2020 AND LATER

**Parts List**

When ordering replacement parts/kits, please specify model and serial number your unit.

Item	Part Number	Description	Qty
1	A-TT4-00161-1	BRAKE MASTER CYLINDER	1
2	A-TT4-00381	STEERING GEARBOX	1
3	TT00-09-002-AA	ASY, POWER STEERING RESERVOIR	1
4	Z-10974	ASY, GEAR PUMP	1
5	K-5385	HOSE KIT, TT STEERING	1
6	H10106	3/8" LOW PRESSURE HYD HOSE	126"
7	H10106	3/8" LOW PRESSURE HYD HOSE	110"
8	H10106	3/8" LOW PRESSURE HYD HOSE	48"
9	12 GMV MEGAVAC	3/4" SUCTION HOSE	5.5"
10	12 GMV MEGAVAC	3/4" SUCTION HOSE	8"
11	12 GMV MEGAVAC	3/4" SUCTION HOSE	18"
12	A-TT4-00204	RETURN LINE EXTENDER	1
13	A-TT4-00213	ADAPTER, M18X1.5 O-RING - 06 M AN	1
14	A-TT4-00606-1A	ADAPTER, 1/2 M NPT - 3/4 HOSE BEAD, BRASS	3
15	A-TT4-00606-1	Y FITTING, 3X 1/2 F NPT	1
16	N-3115-06-06	ADAPTER, 5/8-18 INV FLARE TO -6 AN	1
17	N-3115-06-07	ADAPTER, 11/16-18 INV FLARE TO -6 AN	1

13.3 HYDRAULIC ASSIST SYSTEM FOR UNITS BUILT 6/2020 AND LATER



1 INSTALL FITTING USING LOCTITE 565 THREAD SEALANT OR COMPARABLE

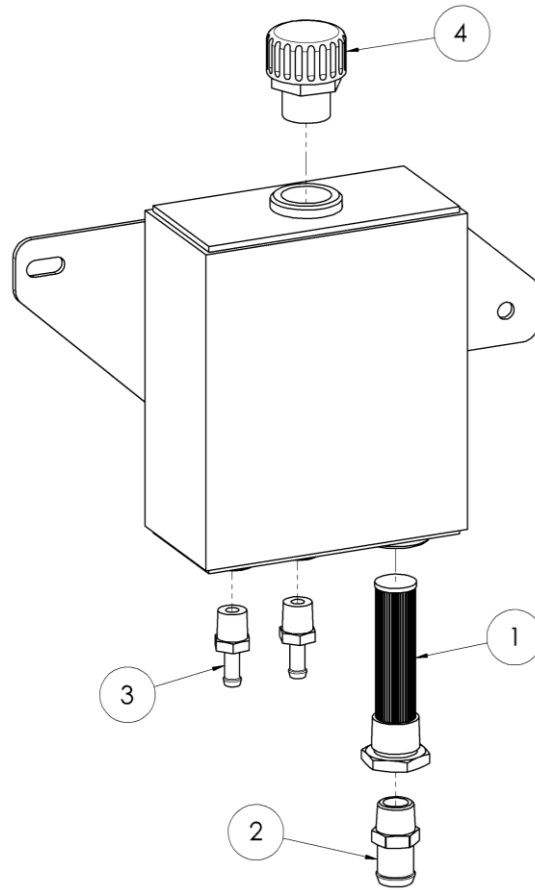
2 SECURE FITTINGS AT NEXT HIGHER TO ALLOW FOR PROPER CLOCKING WITH REGARDS TO HOSE ROUTING REQUIREMENTS.

**Parts List**

When ordering replacement parts/kits, please specify model and serial number your unit.

Item	Part Number	Description	Qty
1	HC-2881	GEAR PUMP, STEERING/BRAKING	1
2	N-2202-13-S-B	ADAPTER, M -16 ORB X F 1/2 NPT	1
3	269HB-12-8	ELBOW 90° - 8 NPT M - 12 HOSE BEAD, BRASS	2
4	C3269X12X8	ADAPTER, 12 M SAE ORB - 1/2 F NPT	1
5	N-2042-19-S-B	ELBOW, 45° -06 M JIC X -08 M ORB	1

13.4 HYDRAULIC TANK SUBASSEMBLY (STYLE A - SUPERSEDED)



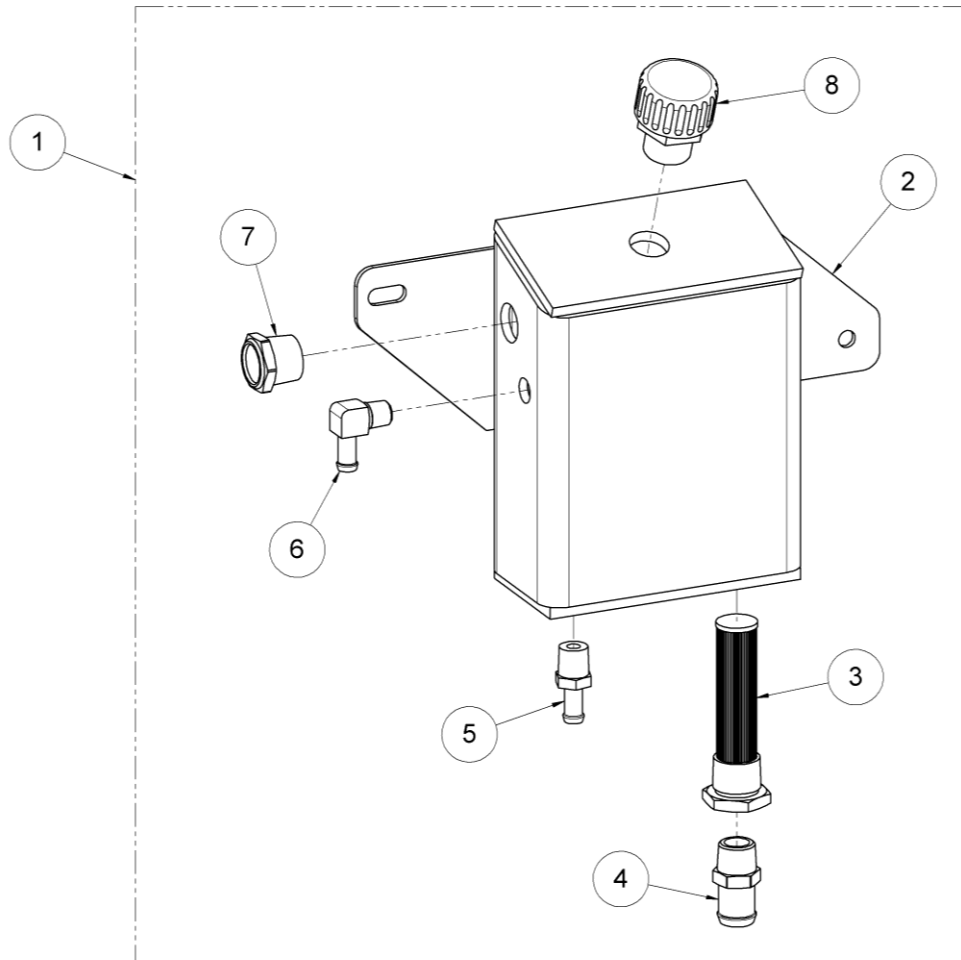
**Parts List**

When ordering replacement parts/kits, please specify model and serial number your unit.

Item	Part Number	Description	Qty
1	TT00-09-003-CA	SUCTION STRAINER	1
2	A-TT4-00606-1A	HOSE BARB, 3/4 BARB X 1/2 NPT, BRASS	1
3	05706B-106	HOSE BARB, 3/8 BARB X 3/8 NPT, BRASS	1
4	A-ES12-0550	HYDRAULIC BREATHER CAP	1

\*See Steering Fluid and Fill Procedure (Maintenance Section).

13.5 HYDRAULIC ASSIST SYSTEM SCHEMATIC (STYLE B)



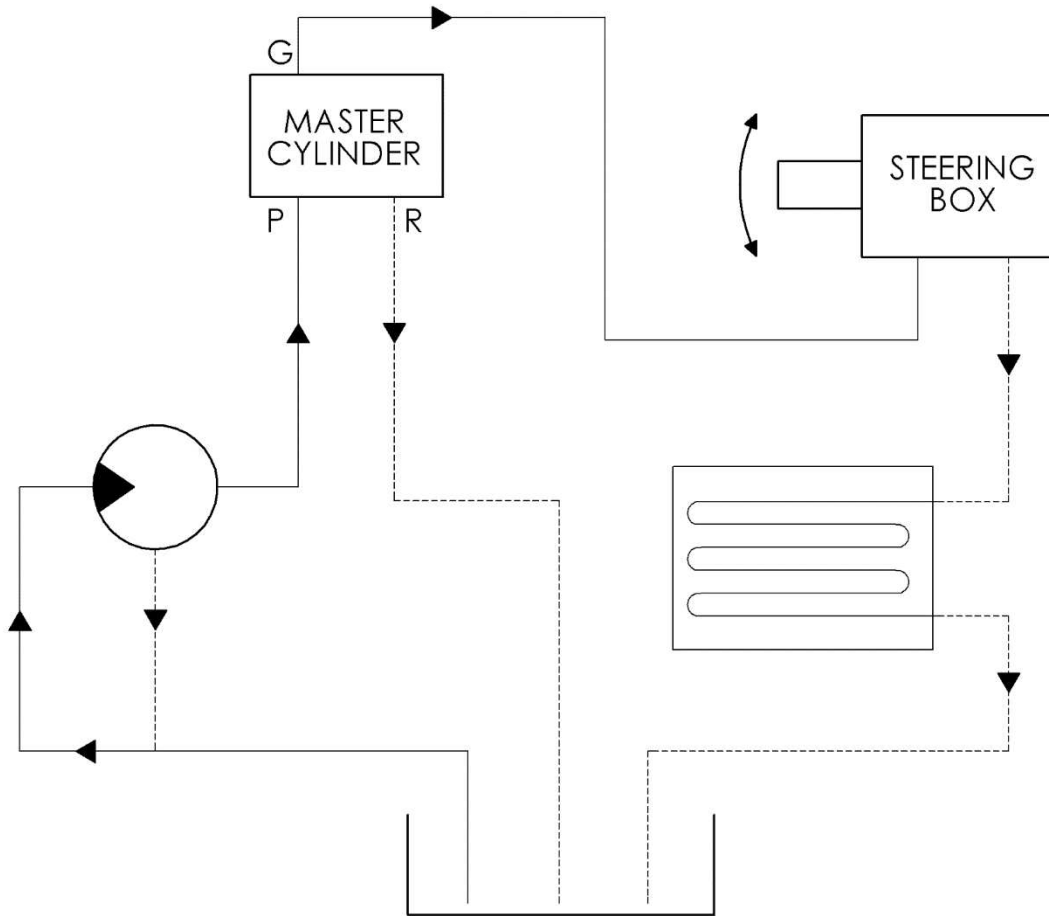
**Parts List**

When ordering replacement parts/kits, please specify model and serial number your unit.

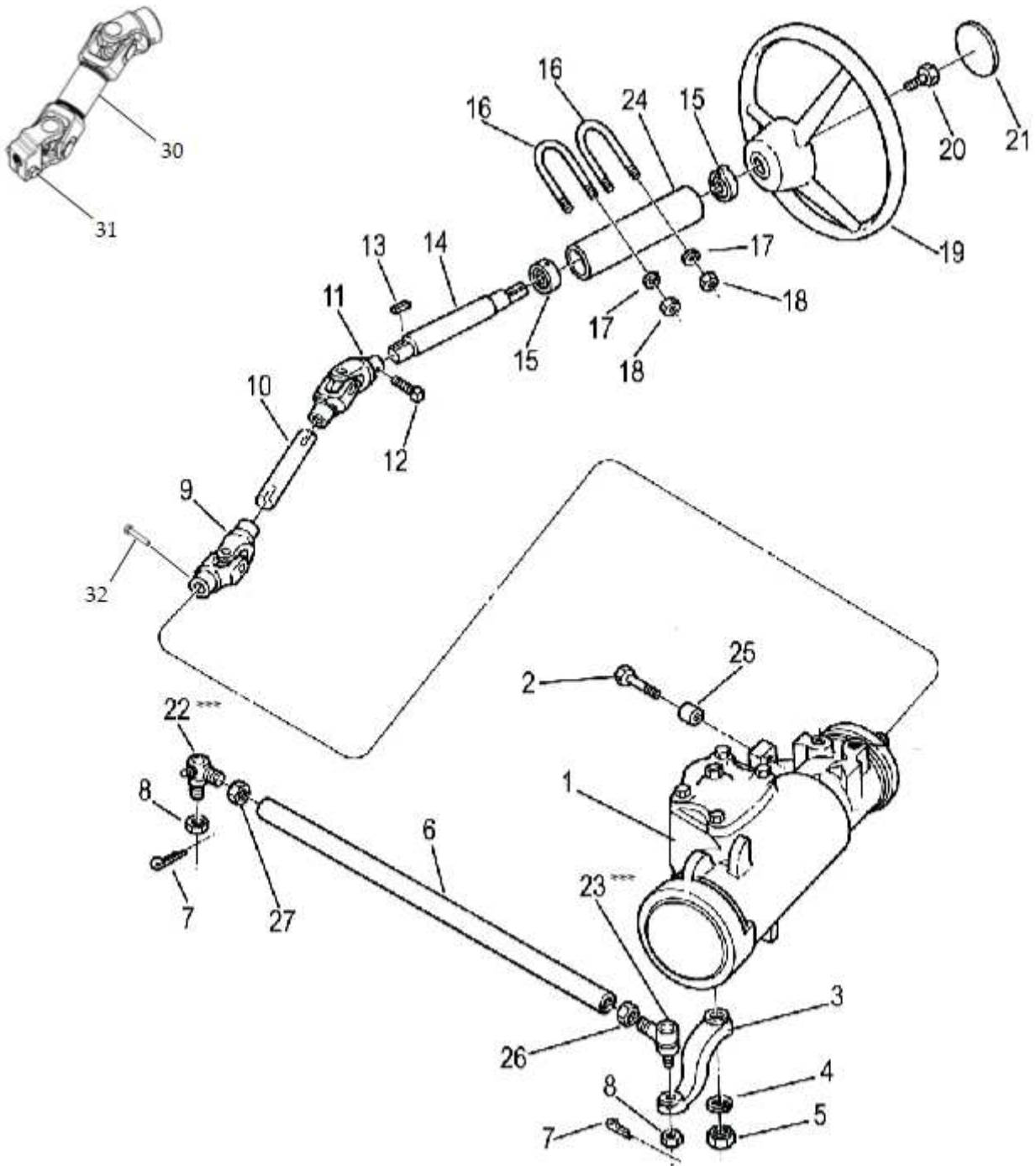
Item	Part Number	Description	Qty
1	TT00-09-002-AA	TT POWER STEERING TANK SUBASSEMBLY (INCLUDES ITEMS 2-8)	1
2	TT00-09-001-SAC	POWER STEERING RESERVOIR	1
3	TT00-09-003-CA	TT SUCTION STRAINER	1
4	A-TT4-00606-1A	HOSE BARB, 3/4 BARB X 1/2 NPT, BRASS	1
5	05706B-106	HOSE BARB, 3/8 BARB X 3/8 NPT, BRASS	1
6	05706B-C04	ELBOW, HOSE BARB, 3/8 BARB X 3/8 NPT, BRASS	1
7	NVSP-09-015-CA	SIGHT GAGE, 1/2 NPT	1
8	TT00-09-004-CA	HYDRAULIC BREATHER CAP, 1/2 NPT	1

\*See Steering Fluid and Fill Procedure (Maintenance Section).

13.6 HYDRAULIC ASSIST SYSTEM SCHEMATIC



14.0 **STEERING SYSTEM**  
14.1 **STEERING SYSTEM BREAKDOWN**





14.1 STEERING SYSTEM BREAKDOWN

**Parts List**

When ordering replacement parts/kits, please specify model and serial number your unit.

Item	Part Number	Description	Qty
1	A-TT4-00381	STEERING BOX	1
2	NPN	SCREW-HEX CAP-7/16-14 X 2 GR8	4
3	A-TT4-00382	PITTMAN ARM	1
4	NPN	WASHER-LOCK-3/4	1
5	NPN	NUT-LOW-3/4-10	1
6	A-TT4-00386	DRAG LINK	1
7	NPN*	COTTER PIN 1/8 X 1 1/2	2
8	NPN*	NUT-TIE ROD 1/2-20	2
9	A-TT4-00389	UNIVERSAL COUPLER (SEE ITEM 28)	1
10	A-TT4-00390	SHAFT COUPLING (SEE ITEM 28)	1
11	A-TT4-00391	UNIVERSAL JOINT (SEE ITEM 28)	1
12	NPN	LOCKING BOLT-DOG POINT 3/8-16 (SEE ITEM 28)	2
13	A-TT4-00393	GIBB KEY	1
14	A-TT4-00394-1	STEERING SHAFT	1
15	A-TT4-00395	BEARING	2
16	A-TT4-00396	2 1/8 U-BOLT 3/8HD	2
17	NPN**	WASHER-FLAT-5/16	4
18	NPN**	NUT-LOCK-5/16-18	4
19	H-5074	STEERING WHEEL	1
20	N/A	SCREW-HEX CAP-3/8-24 X 1	1
21	H-5075	COVER PLATE	1
22	A-TT4-00402	TIE ROD END L/H	1
23	A-TT4-00403	TIE ROD END R/H	1
24	A-TT4-00404	STEERING TUBE	1
25	A-TT4-00405	SPACERS	4
26	A-TT4-00406	3/4-16 NUT-JAM-L/H	1
27	A-TT4-00407	3/4-16 NUT-JAM-R/H	1
30	TT08-12-001-SA	STEERING SHAFT ASSEMBLY (REPLACES ITEMS 9-12, 31)	1
31	NPN	HCS, 3/8-24 UNF X 2 (INCLUDED WITH ITEM 30)	1
32	NPN	HCS, 5/16-18 UNF X 1.75 (SEE ITEM 30)	1

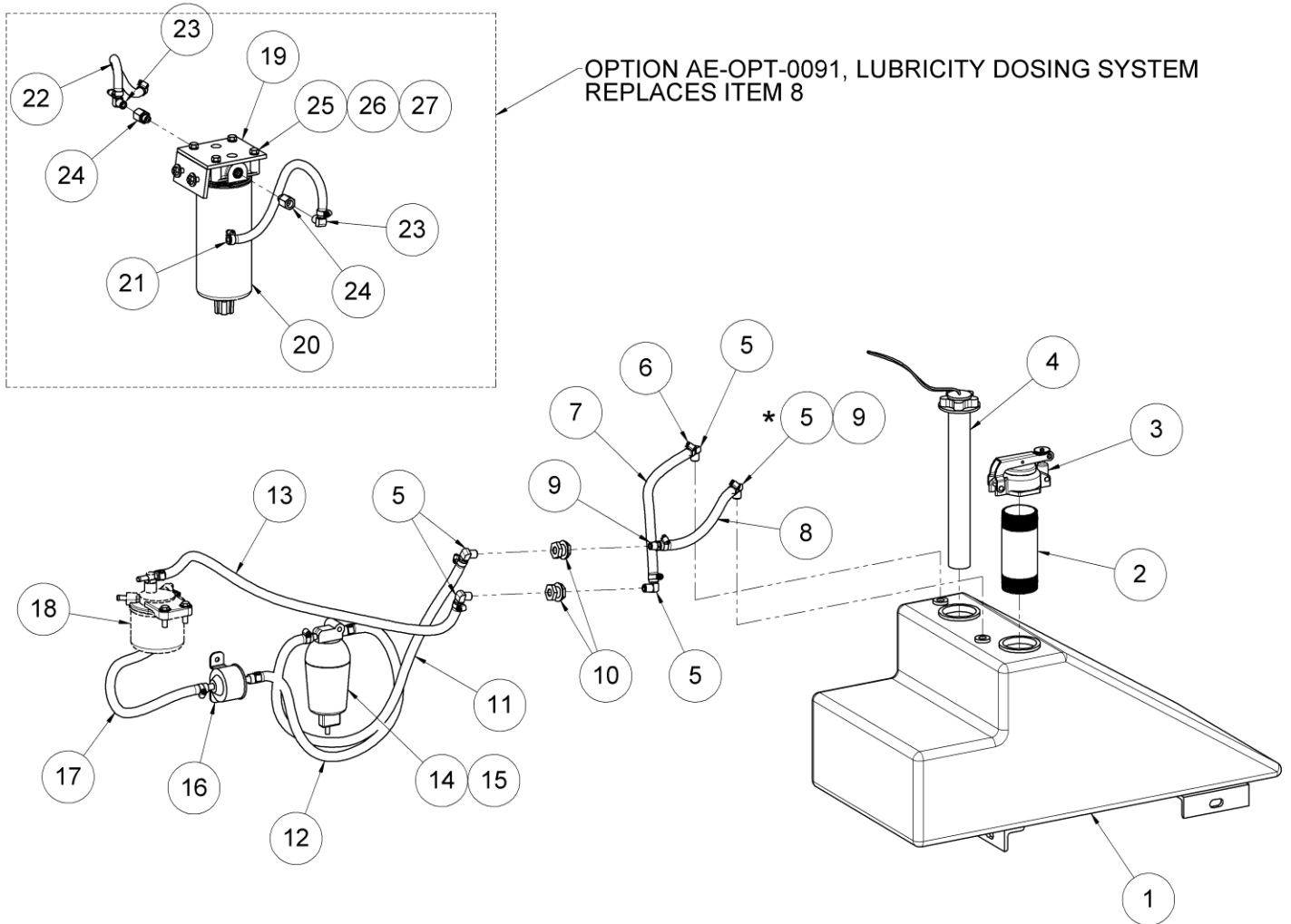
\*ITEMS 7 & 8 NOT SOLD SEPERATELY. THESE PARTS ARE INCLUDED IN ITEMS 22 & 23

\*\*ITEM 17 & 18 ARE INCLUDED IN ITEM 16

\*\*\*IT IS POSSIBLE FOR THE DRAG LINK ASSEMBLY TO BE INSTALLED "BACKWARD" CAUSING THE L/H AND R/H TIE ROD END TO BE ON THE OPPOSITE ENDS FROM WHAT IS SHOWN IN THE DIAGRAM. TO ENSURE THAT THE CORRECT PART IS ORDERED, IT IS RECOMMENDED THAT THEY ARE REPLACED AT THE SAME TIME.

15.0 FUEL SYSTEM

15.1 FUEL SYSTEM





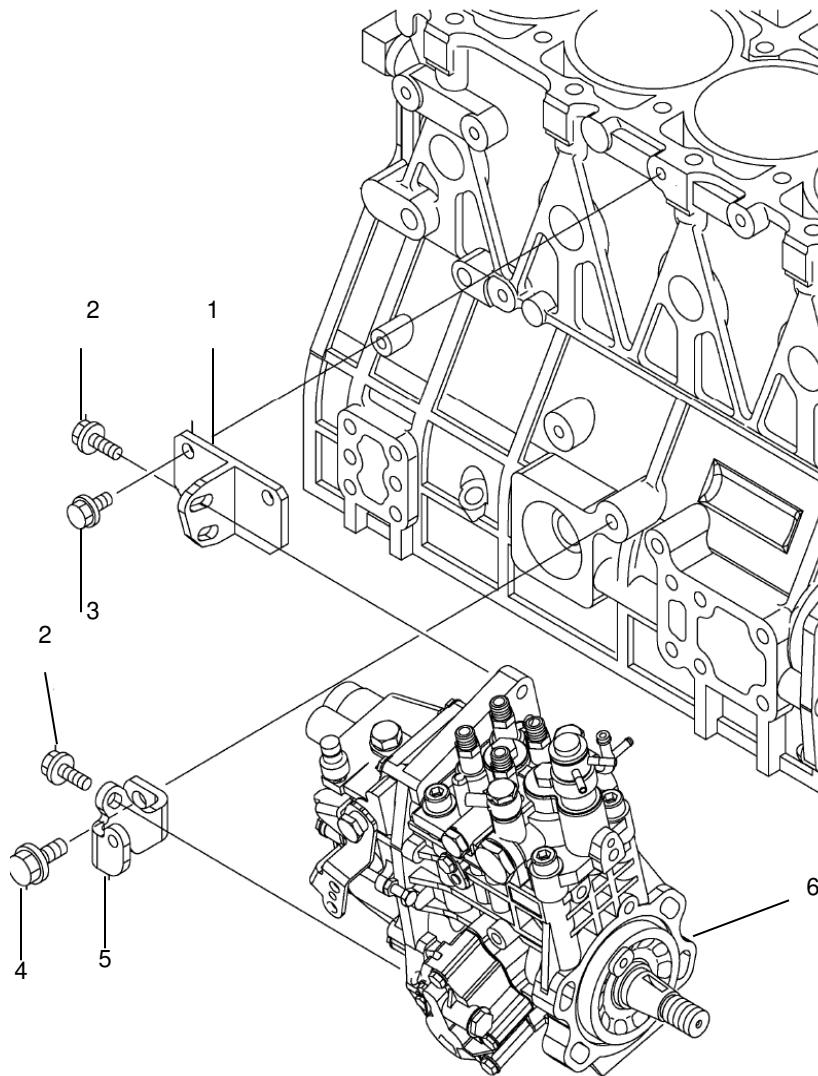
15.1 FUEL SYSTEM

**Parts List**

When ordering replacement parts/kits, please specify model and serial number your unit.

Item	Part Number	Description	Qty
1	A-TT4-00273-1	FUEL TANK, ALUMINIZED STEEL	1
2	A-TT4-00272	PIPE NIPPLE, 2 NPT X 5.5 LONG	1
3	A-TT4-00271-1	FUEL CAP, DIESEL	1
4	A-TT4-00276-1	FUEL SENDING UNIT	1
5	05705B-C04	ELBOW, 1/4 NPT X 5/16 BARB, BRASS	5
6	NPN	SAE HOSE CLAMP	12
7	H05705	5/16 FUEL HOSE, SAE30R7, 14" LONG	1
8	H05705	5/16 FUEL HOSE, SAE30R7, 17" LONG	1
9	05705B-104	HOSE BARB, 1/4 NPT X 5/16 BARB, BRASS	1
10	A-TT4-00280	BULKHEAD FITTING, 1/4 NPT	2
11	H05705	5/16 FUEL HOSE, SAE30R7, 21.5" LONG	1
12	H05705	5/16 FUEL HOSE, SAE30R7, 15" LONG	1
13	H05705	5/16 FUEL HOSE, SAE30R7, 44" LONG	1
14	129242-55700	FUEL-WATER SEPARATOR ASSEMBLY	1
15	129242-55730	REPLACEMENT ELEMENT	1
16	119225-52102	FUEL TRANSFER PUMP	1
17	H05705	5/16 FUEL HOSE, SAE30R7, 17" LONG	1
18	NPN	ON-ENGINE FUEL CONNECTION POINT	-
19	AE-OPT-0091-C	LUBRICITY FILTER BRACKET	1
20	FS20000	LUBRICITY FILTER ELEMENT	1
21	H05705	5/16 FUEL HOSE, SAE30R7	1
22	H05705	5/16 FUEL HOSE, SAE30R7	1
23	05705B-C04	ELBOW, 1/4 NPT X 5/16 BARB, BRASS	5
24	222P-4-M112	BRASS FITTING, 1/4" NPT X M12X1.5	2
25	NPN	M8 X 1.25 X 30 BOLT	4
26	NPN	5/16 FLAT WASHER	4
27	NPN	8MM SPLIT LOCK WASHER	4

15.2 FUEL INJECTION PUMP – TIER II

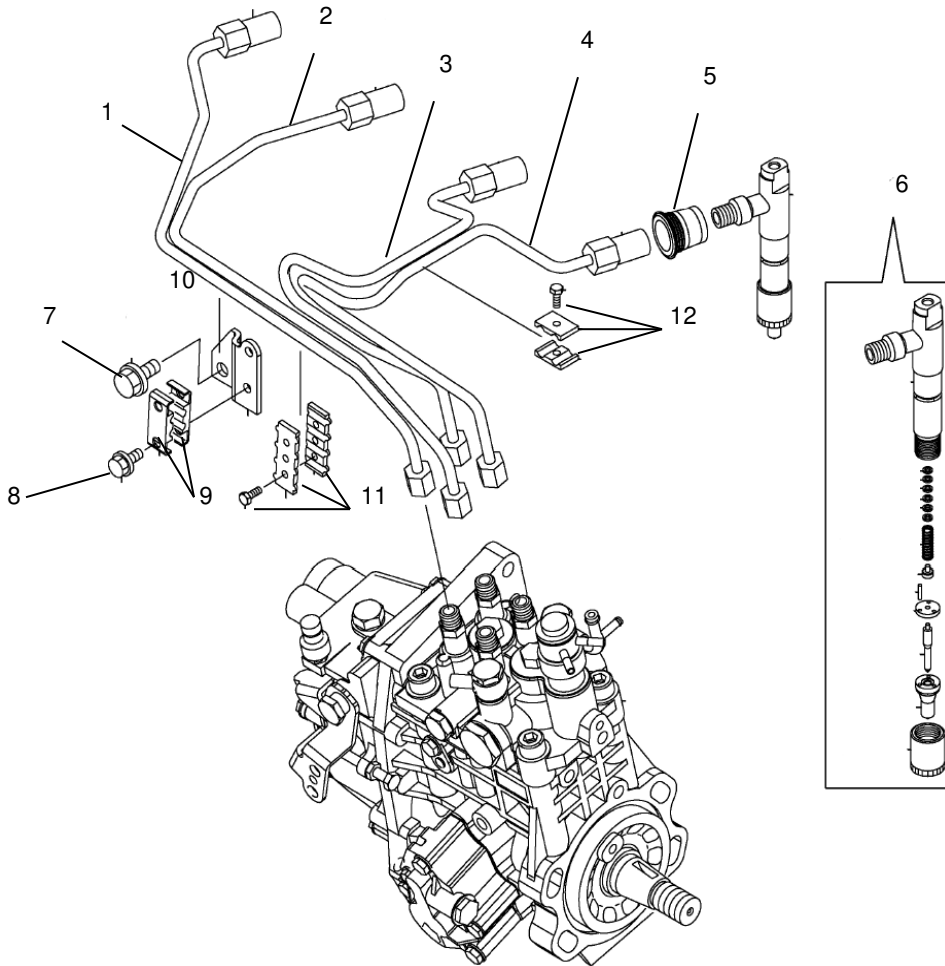


**Parts List**

When ordering replacement parts/kits, please specify model and serial number your unit.

Item	Part Number	Description	Qty
1	129907-01950	MOUNTING BRACKET	1
2	26106-080222	BOLT, M8 X 22 PLATED	3
3	26106-080162	BOLT, M8 X 16 PLATED	2
4	26106-100202	BOLT, M10 X 20 PLATED	1
5	129907-01960	MOUNTING BRACKET	1
6	729907-51320	FUEL INJECTION PUMP	1

15.3 FUEL INJECTION LINES AND NOZZLE – TIER II

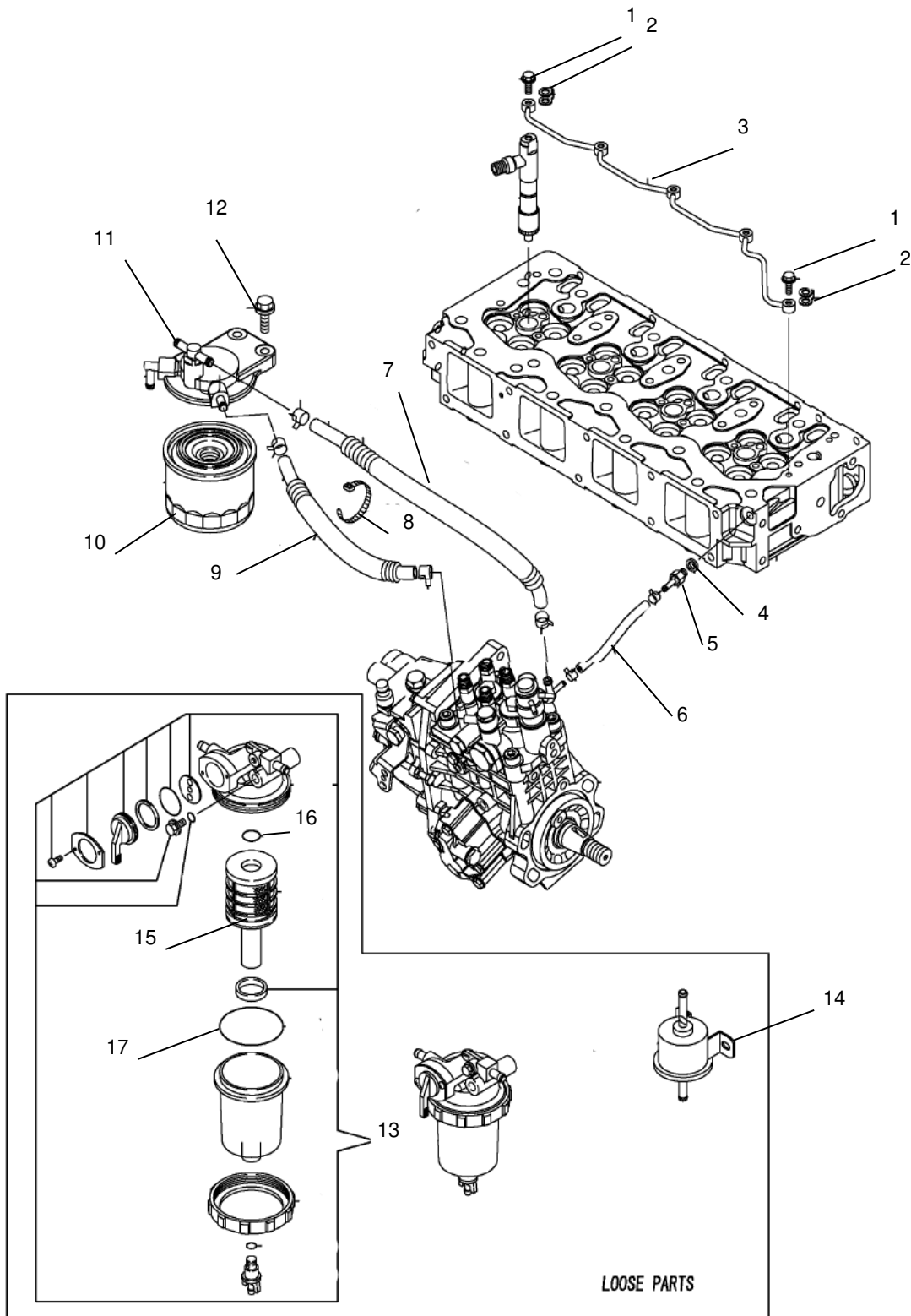


**Parts List**

When ordering replacement parts/kits, please specify model and serial number your unit.

Item	Part Number	Description	Qty
1	129907-59810	PIPE ASSEMBLY FUEL INJECTION	1
2	129907-59820	PIPE ASSEMBLY FUEL INJECTION	1
3	122907-59830	PIPE ASSEMBLY FUEL INJECTION	1
4	129907-59840	PIPE ASSEMBLY FUEL INJECTION	1
5	123907-11601	PIPE SEAL	4
6	129937-53000	FUEL INJECTOR	4
7	26106-080182	BOLT, M8 X 18 PLATED	1
8	26106-060162	BOLT, M6 X 16 PLATED	1
9	122780-59100	RETAINER	2
10	129907-59710	BRACKET	1
11	129550-59120	RETAINER	1
12	119305-59120	RETAINER	1

15.4 ENGINE FUEL LINE - TIER II





15.4 ENGINE FUEL LINE - TIER II

**Parts List**

When ordering replacement parts/kits, please specify model and serial number your unit.

Item	Part Number	Description	Qty
1	123907-59540	JOINT BOLT, M6	5
2	123907-59550	PACKING, FUEL RETURN	5
3	129907-59140	PIPE ASSEMBLY F.O. RETURN	1
4	22190-080002	SEAL WASHER	1
5	123907-59560	HOSE JOINT	1
6	129486-59551	PIPE ASSY FUEL RETURN WITH CLAMPS	1
7	129457-59010	PIPE ASSY FUEL WITH CLAMPS	1
8	121750-59890	CLAMP #40	1
9	129981-59010	PIPE ASSY FUEL WITH CLAMPS	1
10	119802-55810	FUEL FILTER ELEMENT	1
11	129004-55610	BRACKET FUEL FILTER	1
12	26106-080302	BOLT, M8 X 30 PLATED	2
13	129242-55700	FUEL WATER SEPERATOR COMPLETE ASSY	1
14	119225-52102	PUMP ASSEMBLY, FUEL FEED	1
15	129242-55730	FUEL WATER SEPERATOR ELEMENT	1
16	24311-000160	O-RING	1
17	24321-000750	O-RING	1

Note: The fuel system needs to be primed under certain conditions.

\*Before starting the engine for the first time

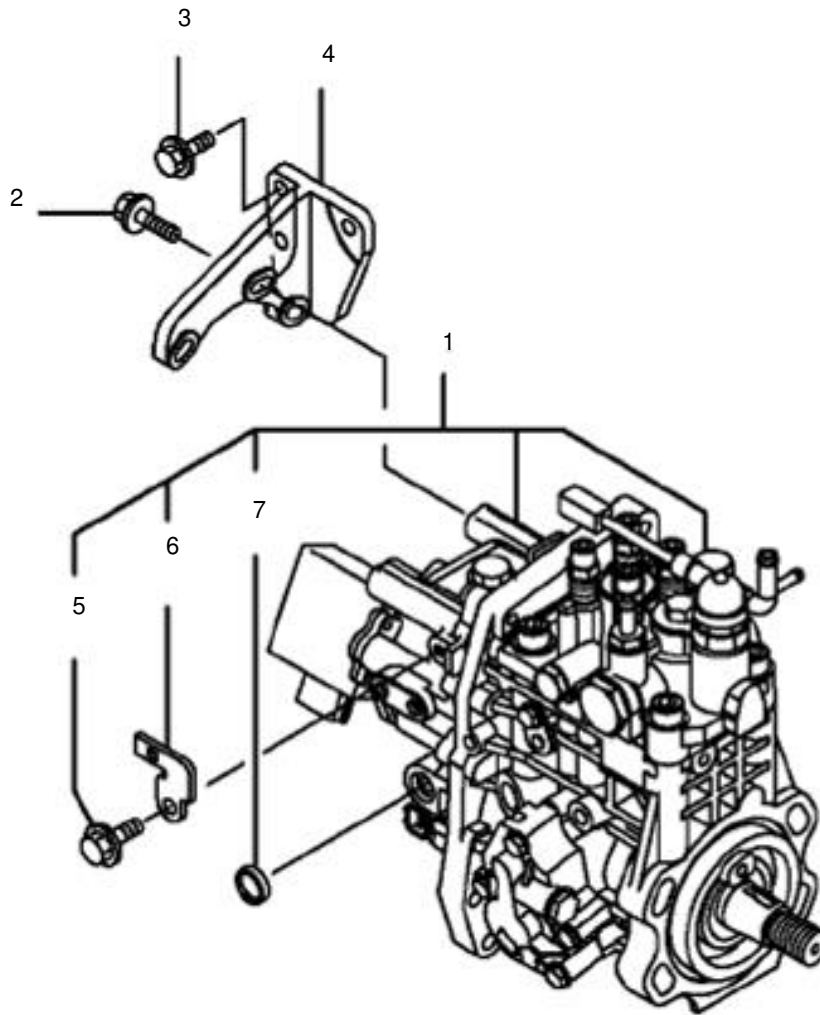
\*After running out of fuel and fuel has been added to the fuel tank

\*After fuel system maintenance such as changing the fuel filter and draining the fuel/water separator, or replacing a fuel system component

To prime the fuel system:

1. Turn the key to the ON position for 10 to 15 seconds. This will allow the electric fuel pump to prime the fuel system.
2. NEVER use the starter motor to crank the engine in order to prime the fuel system. This may cause the starter motor to overheat and damage the coils, pinion and / or ring gear.

15.5 FUEL INJECTION PUMP – TIER III

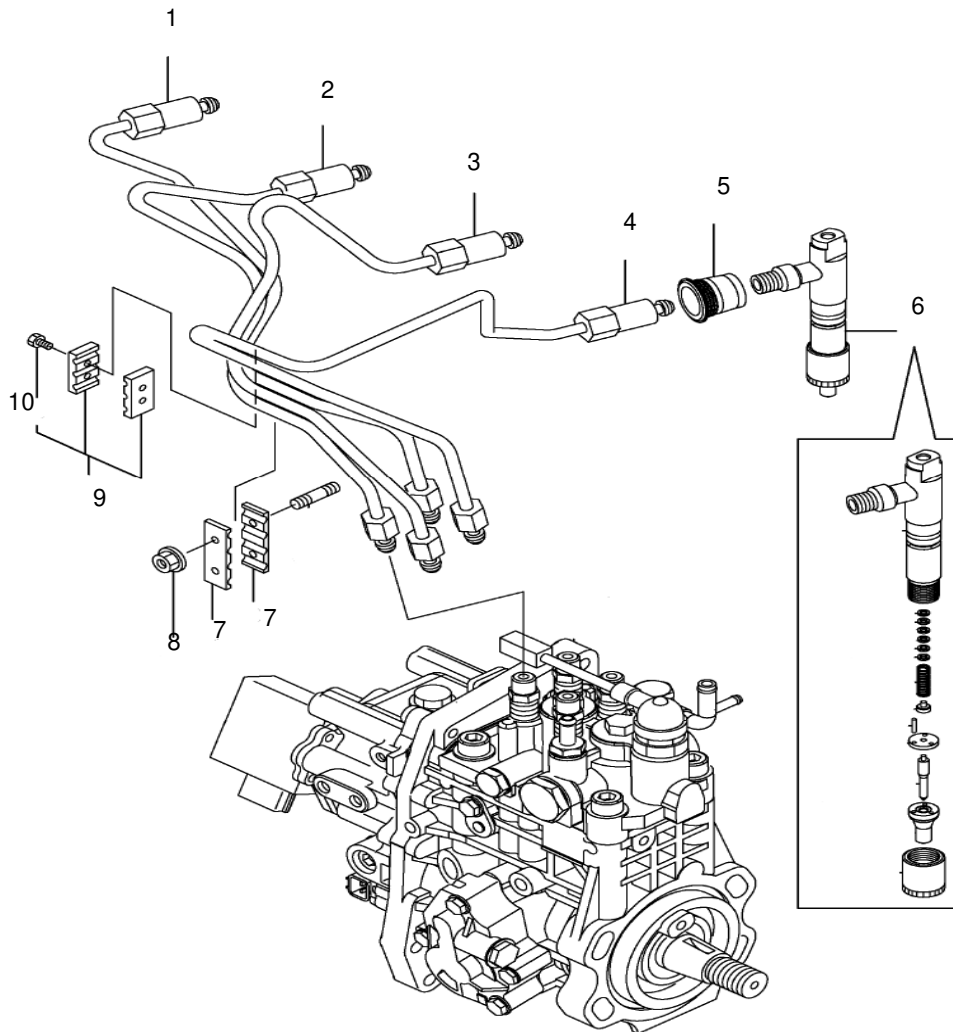


**Parts List**

When ordering replacement parts/kits, please specify model and serial number your unit.

Item	Part Number	Description	Qty
1	729939-51390	FUEL INJECTION PUMP	1
2	26106-080302	BOLT, M8 X 30 PLATED	3
3	26106-080202	BOLT, M8 X 20 PLATED	3
4	129927-51250	RETAINER	1
5	26106-060122	BOLT, M6 X 12 PLATED	1
6	129927-58170	LEVER	1
7	27241-160000	PLUG 16	1

15.6 FUEL INJECTION LINES AND NOZZLE – TIER III

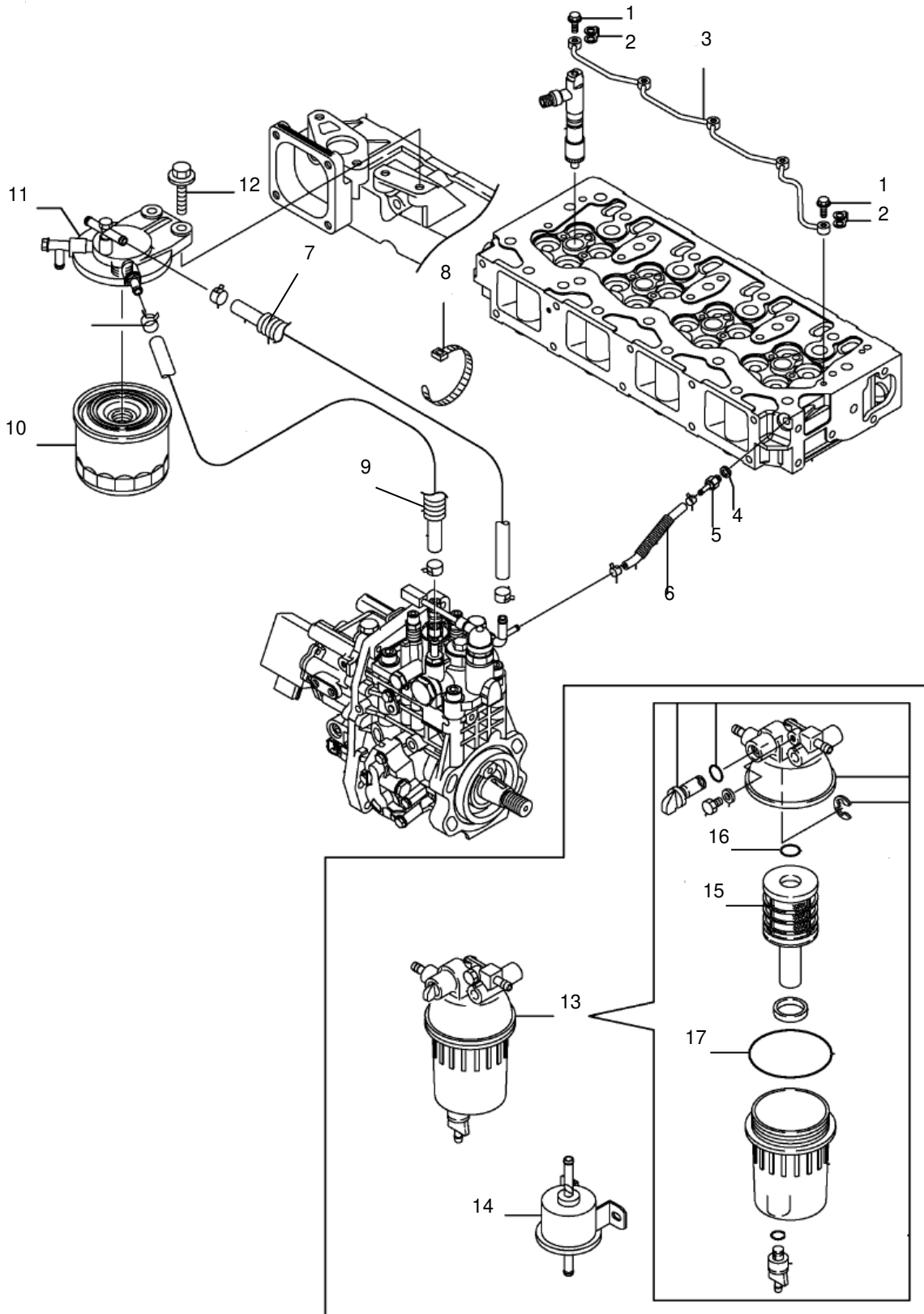


**Parts List**

When ordering replacement parts/kits, please specify model and serial number your unit.

Item	Part Number	Description	Qty
1	129927-59810	PIPE ASSEMBLY FUEL INJECTION	1
2	129927-59820	PIPE ASSEMBLY FUEL INJECTION	1
3	122927-59830	PIPE ASSEMBLY FUEL INJECTION	1
4	129927-59840	PIPE ASSEMBLY FUEL INJECTION	1
5	123907-11601	PIPE SEAL	4
6	729927-53100	FUEL INJECTOR	4
7	123472-59120	BRACKET	2
8	26366-060002	NUT M6	2
9	129150-59120	RETAINER	1
10	129150-59131	BOLT, M4 X 14 HEX SCKT	2

15.7 ENGINE FUEL LINE – TIER III





15.7 ENGINE FUEL LINE - TIER III

**Parts List**

When ordering replacement parts/kits, please specify model and serial number your unit.

Item	Part Number	Description	Qty
1	123907-59540	JOINT BOLT, M6	5
2	123907-59550	PACKING, FUEL RETURN	5
3	129907-59140	PIPE ASSEMBLY F.O. RETURN	1
4	22190-080002	SEAL WASHER	1
5	123907-59560	HOSE JOINT	1
6	129486-59550	PIPE ASSY FUEL RETURN WITH CLAMPS	1
7	129457-59010	PIPE ASSY FUEL WITH CLAMPS	1
8	121750-59890	CLAMP #40	1
9	129961-59310	PIPE ASSY FUEL WITH CLAMPS	1
10	119802-55810	FUEL FILTER ELEMENT	1
11	129004-55612	BRACKET FUEL FILTER	1
12	26106-080302	BOLT, M8 X 30 PLATED	2
13	129242-55700	FUEL WATER SEPERATOR COMPLETE ASSY	1
14	119225-52102	PUMP ASSEMBLY, FUEL FEED	1
15	129242-55730	FUEL WATER SEPERATOR ELEMENT	1
16	24311-000160	O-RING	1
17	24321-000750	O-RING	1

Note: The fuel system needs to be primed under certain conditions.

\*Before starting the engine for the first time

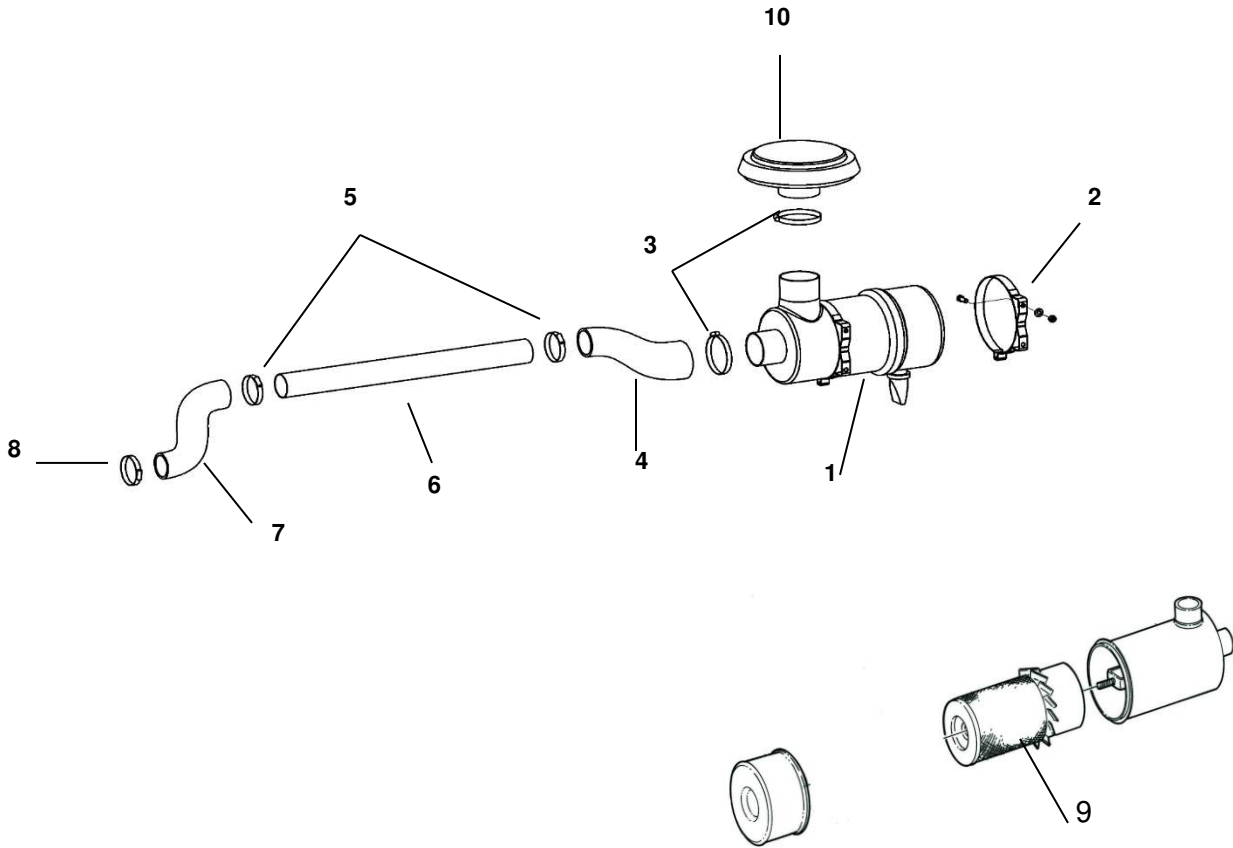
\*After running out of fuel and fuel has been added to the fuel tank

\*After fuel system maintenance such as changing the fuel filter and draining the fuel/water separator, or replacing a fuel system component

To prime the fuel system:

3. Turn the key to the ON position for 10 to 15 seconds. This will allow the electric fuel pump to prime the fuel system.
4. NEVER use the starter motor to crank the engine in order to prime the fuel system. This may cause the starter motor to overheat and damage the coils, pinion and / or ring gear.

16.0 AIR CLEANER  
16.1 AIR CLEANER ASSEMBLY



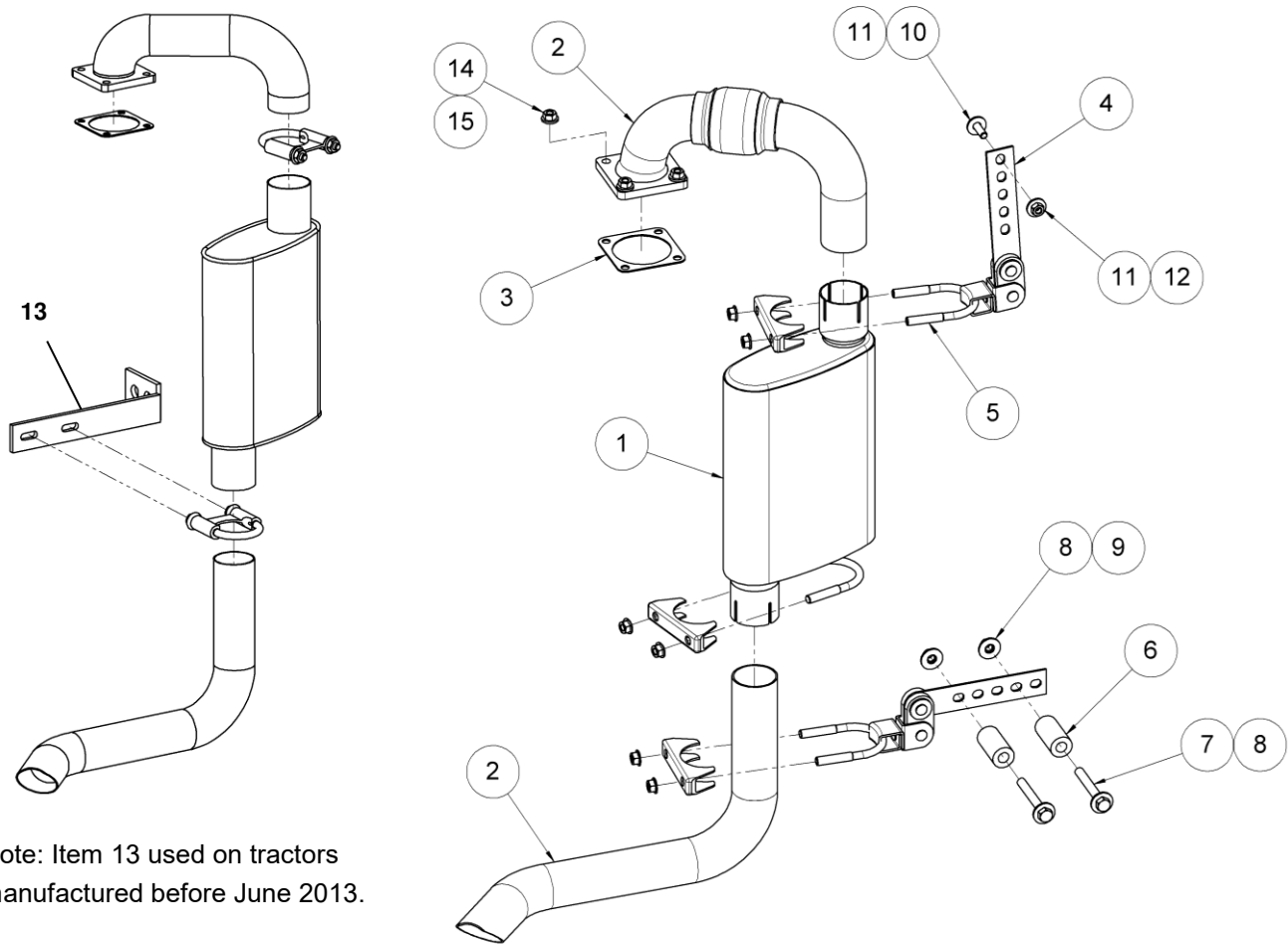
**Parts List**

When ordering replacement parts/kits, please specify model and serial number your unit.

Item	Part Number	Description	Qty
1	A-TT4-00091-2	AIR CLEANER	1
2	A-TT4-00092-1	AIR CLEANER BRACKET	2
3	NPN	#60 HOSE CLAMP	2
4	A-TT4-00099	INTAKE TUBE REDUCER	1
5	NPN	#40 HOSE CLAMP	2
6	TR-2683-00	AIR CLEANER TUBE 2 1/2 OD X 26.5	1
7	A-TT4-00093	INTAKE TUBE	1
8	NPN	#36 HOSE CLAMP	1
9	P601437	AIR CLEANER ELEMENT	1
10	A-TT4-00098-2	RAIN CAP	1

**17.0 EXHAUST & INTAKE SYSTEM**

**17.1 EXHAUST SYSTEM**



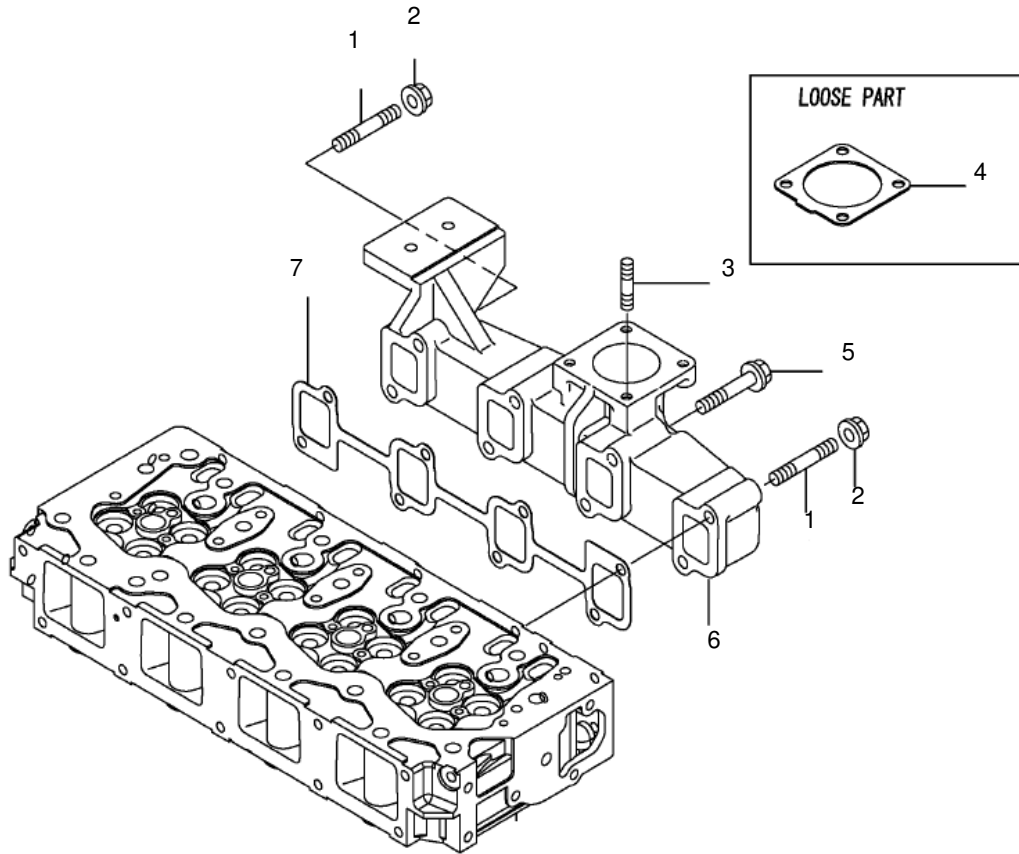
Note: Item 13 used on tractors manufactured before June 2013.

**Parts List**

When ordering replacement parts/kits, please specify model and serial number your unit.

Item	Part Number	Description	Qty
1	A-TT4-00258-2	MUFFLER	1
2	TT08-57-001-KA	2 PIECE EXHAUST PIPE ASSEMBLY	1
3	129930-13200	EXHAUST GASKET	1
4	A-TT4-00260	EXHAUST HANGAR	2
5	A-TT4-00254	2 IN HEAVY DUTY EXHAUST CLAMP	3
6	TT08-57-002-SA	SPACER, 3/8 ID X 2 LG	2
7	NPN	HCS, 3/8-16 UNC X 3.0, GR 8	2
8	NPN	FLAT WASHER, 3/8	4
9	NPN	HEX NUT, 3/8-16 UNC	2
10	NPN	HCS, 5/16-18 UNC X 1.0, GR 8	1
11	NPN	FLAT WASHER, 5/16	2
12	NPN	HEX NUT, 5/16-18 UNC	1
13	A-TT4-00255	EXHAUST BRACKET YANMAR TT4-8	1
14	NPN	LOCK WASHER, M6	4
15	NPN	HEX NUT, M8X1.25	1

17.2 EXHAUST MANIFOLD – TIER II

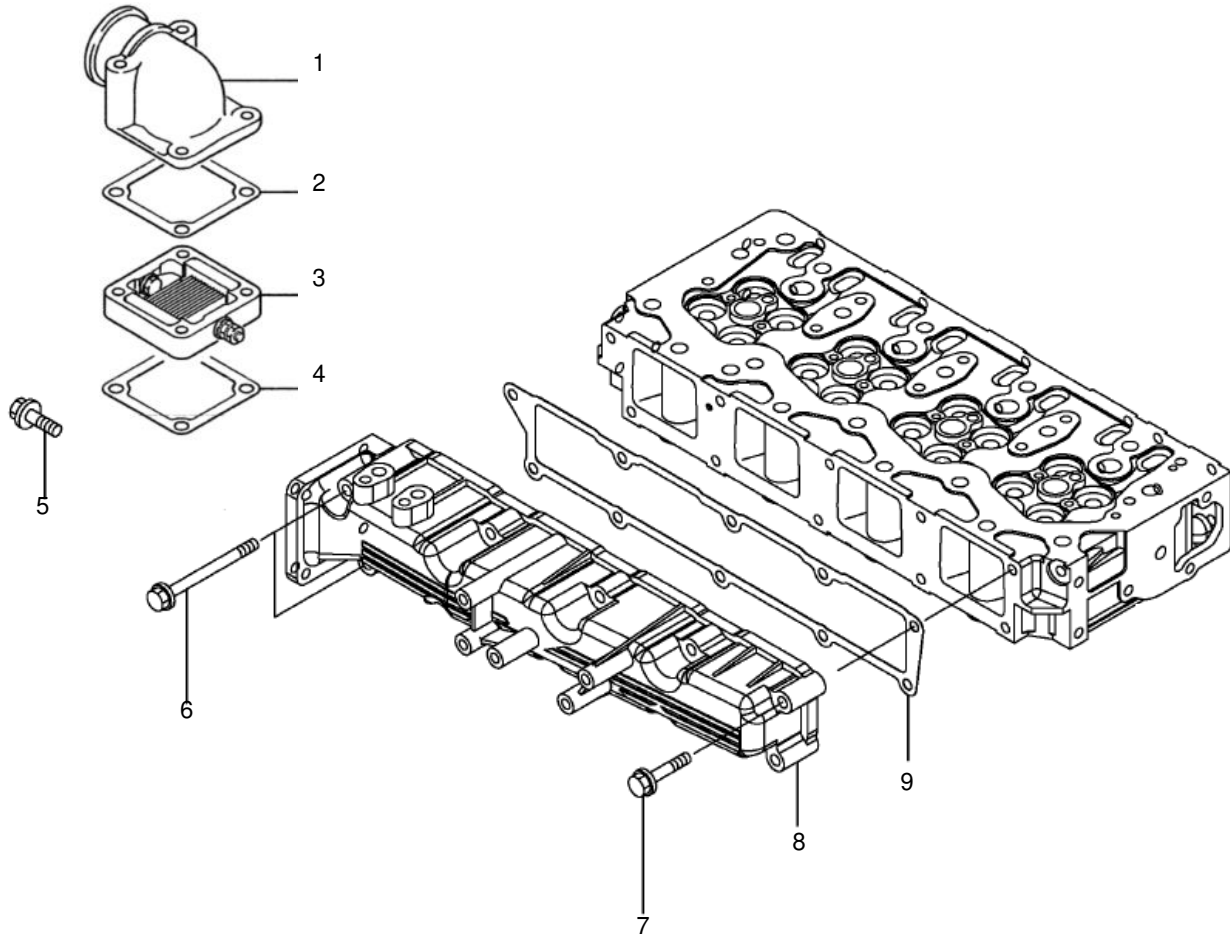


**Parts List**

When ordering replacement parts/kits, please specify model and serial number your unit.

Item	Part Number	Description	Qty
1	123900-13610	STUD, M8 X 80	2
2	26306-080002	NUT	2
3	119131-18320	STUD, M8 X 22	4
4	129930-13200	GASKET, SILENCER	1
5	123900-13630	BOLT, M8 X 80	6
6	129907-13200	EXHAUST MANIFOLD	1
7	129900-13251	GASKET, EXHAUST MANIFOLD	1

17.3 INTAKE MANIFOLD – TIER II

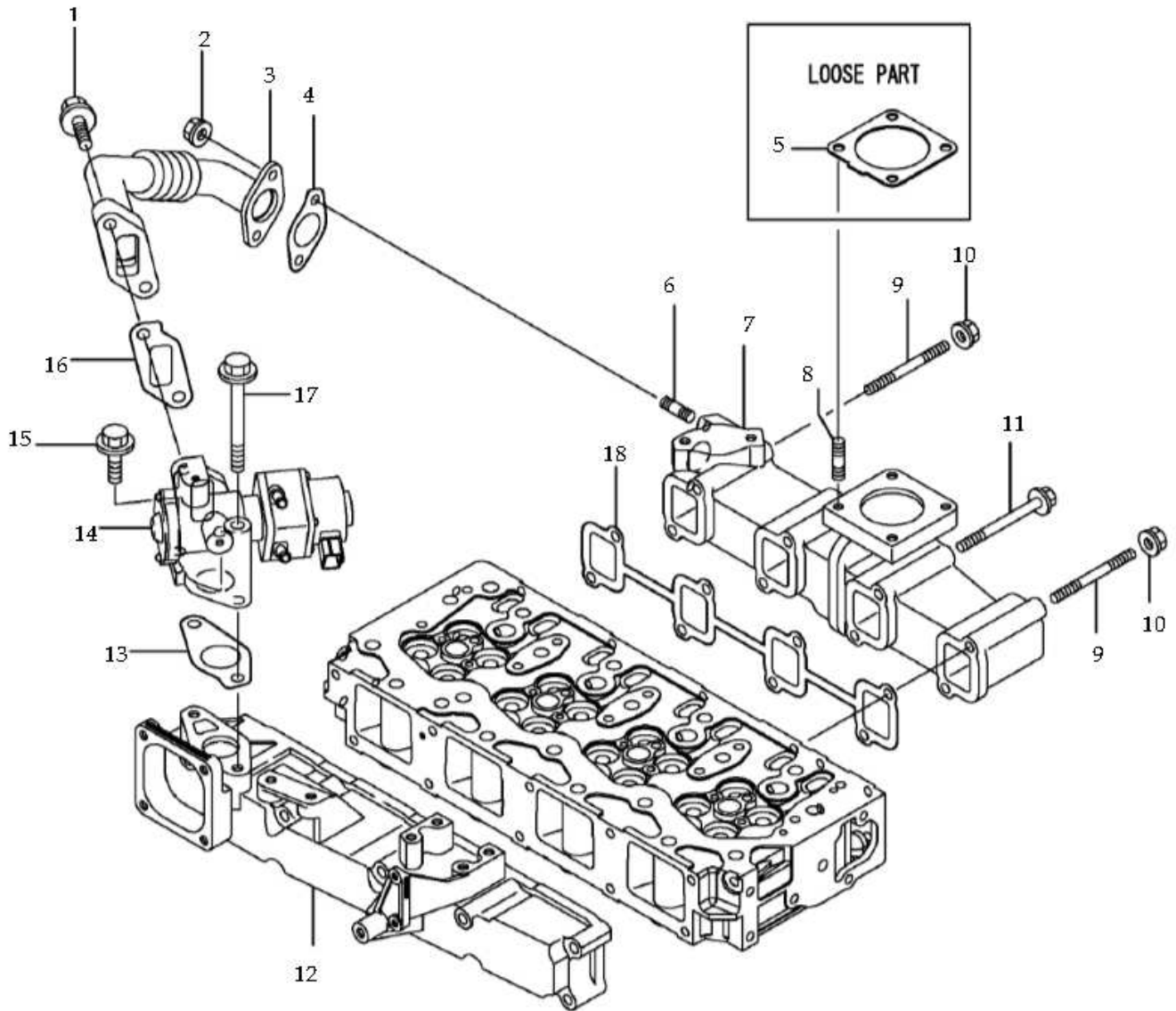


**Parts List**

When ordering replacement parts/kits, please specify model and serial number your unit.

Item	Part Number	Description	Qty
1	119129-77520	INTAKE ELBOW	1
2	119129-77020	GASKET, AIR HEATER	1
3	119005-77050	AIR HEATER	1
4	121850-77021	GASKET, AIR HEATER	1
5	26106-080352	BOLT, M8 X 35 PLATED	4
6	26106-080802	BOLT, M8 X 80 PLATED	2
7	26106-080452	BOLT, M8 X 45 PLATED	8
8	129944-12110	INTAKE MANIFOLD	1
9	129907-12110	GASKET, INTAKE MANIFOLD	1

17.4 EXHAUST MANIFOLD – TIER III





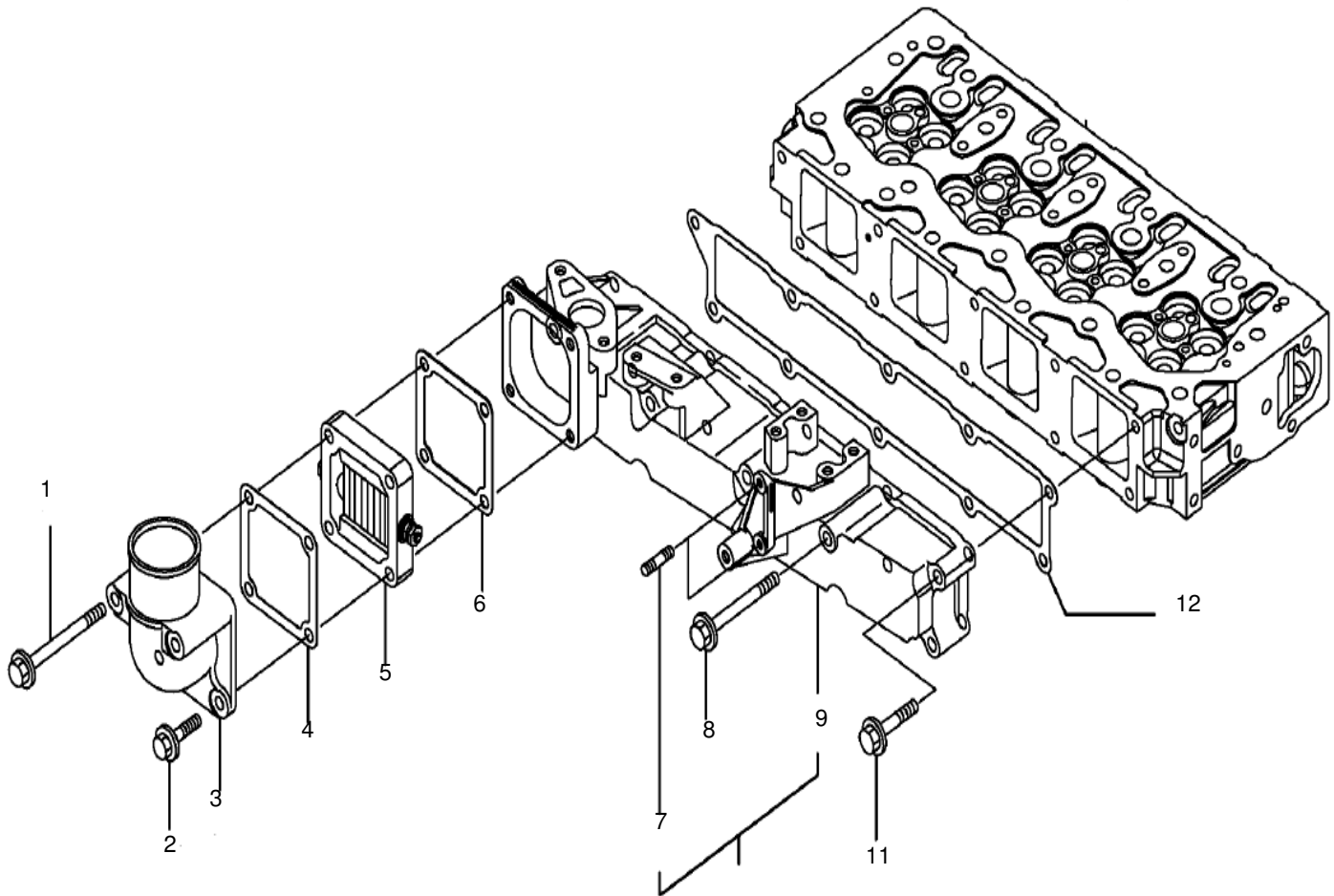
17.4 EXHAUST MANIFOLD – TIER III

**Parts List**

When ordering replacement parts/kits, please specify model and serial number your unit.

Item	Part Number	Description	Qty
1	26106-100302	BOLT, M10 X 30 PLATED	2
2	26306-080002	NUT	2
3	129927-13800	PIPE, EGR	1
4	129927-13810	GASKET, EGR	1
5	129930-13201	GASKET, SILENCER	1
6	129418-18320	STUD BOLT M8 X 20	2
7	129927-13100	EXHAUST MANIFOLD	1
8	119131-18320	STUD, M8 X 22	4
9	129263-13210	STUD	2
10	26306-080002	NUT	2
11	119802-13680	BOLT, M8 X 90	6
12	129927-12100	INTAKE MANIFOLD	1
13	129927-13920	GASKET, EGR V-OUT	1
14	129927-13900	EGR VALVE	1
15	26106-100302	BOLT, M10 X 30 PLATED	1
16	129927-13910	GASKET, EGR V-IN	1
17	26106-100952	BOLT, M10 X 95 PLATED	1
18	129900-13251	GASKET	1

17.5 INTAKE MANIFOLD – TIER III

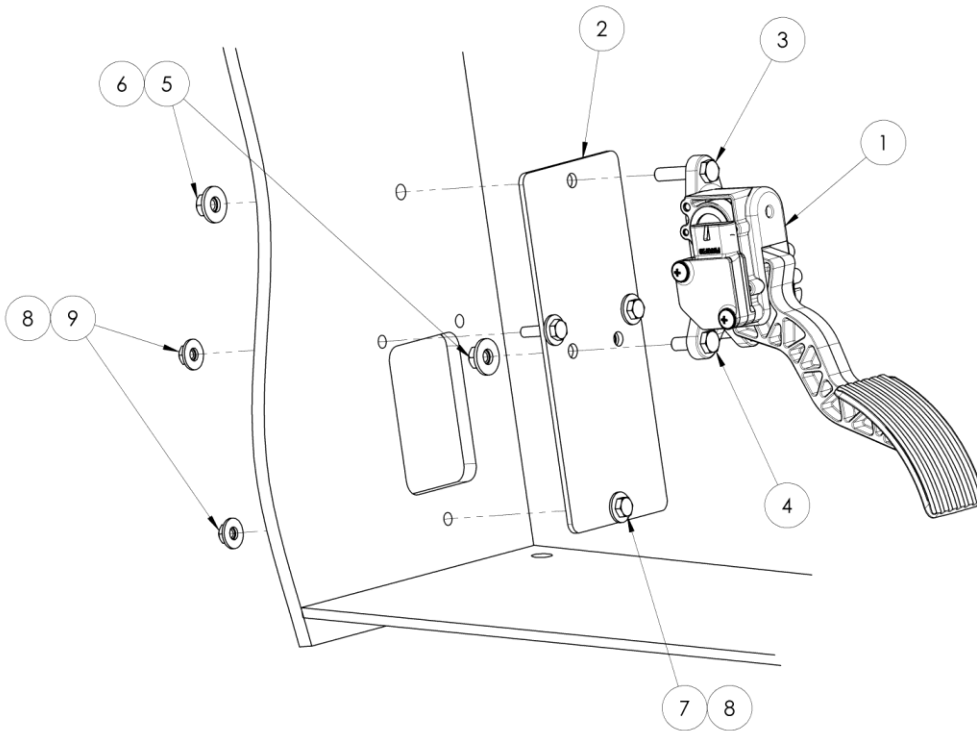


**Parts List**

When ordering replacement parts/kits, please specify model and serial number your unit.

Item	Part Number	Description	Qty
1	26106-080902	BOLT, M8 X 90 PLATED	2
2	26106-080402	BOLT, M8 X 40 PLATED	2
3	119129-77520	BEND	1
4	119129-77020	GASKET	1
5	119005-77051	AIR HEATER	1
6	121850-77021	GASKET, AIR HEATER	1
7	26216-060202	STUD, M6 X 20 PLATED	2
8	26106-080802	BOLT, M8 X 80 PLATED	4
9	129927-12100	INTAKE MANIFOLD	2
10	129927-12150	MANIFOLD CMP, INTAKE	1
11	26106-080452	BOLT, M8 X 45 PLATED	6
12	129907-12110	GASKET, INTAKE MANIFOLD	1

**18.0 OPERATOR COMPARTMENT**  
**18.1 ACCELERATOR PEDAL ASSEMBLY – TIER III**



**PEDALS SHOWN BELOW  
ARE OBSOLETE**

**NOTE ATTACHED WIRING.  
FOR REPLACEMENT, ORDER  
ITEM 1a**

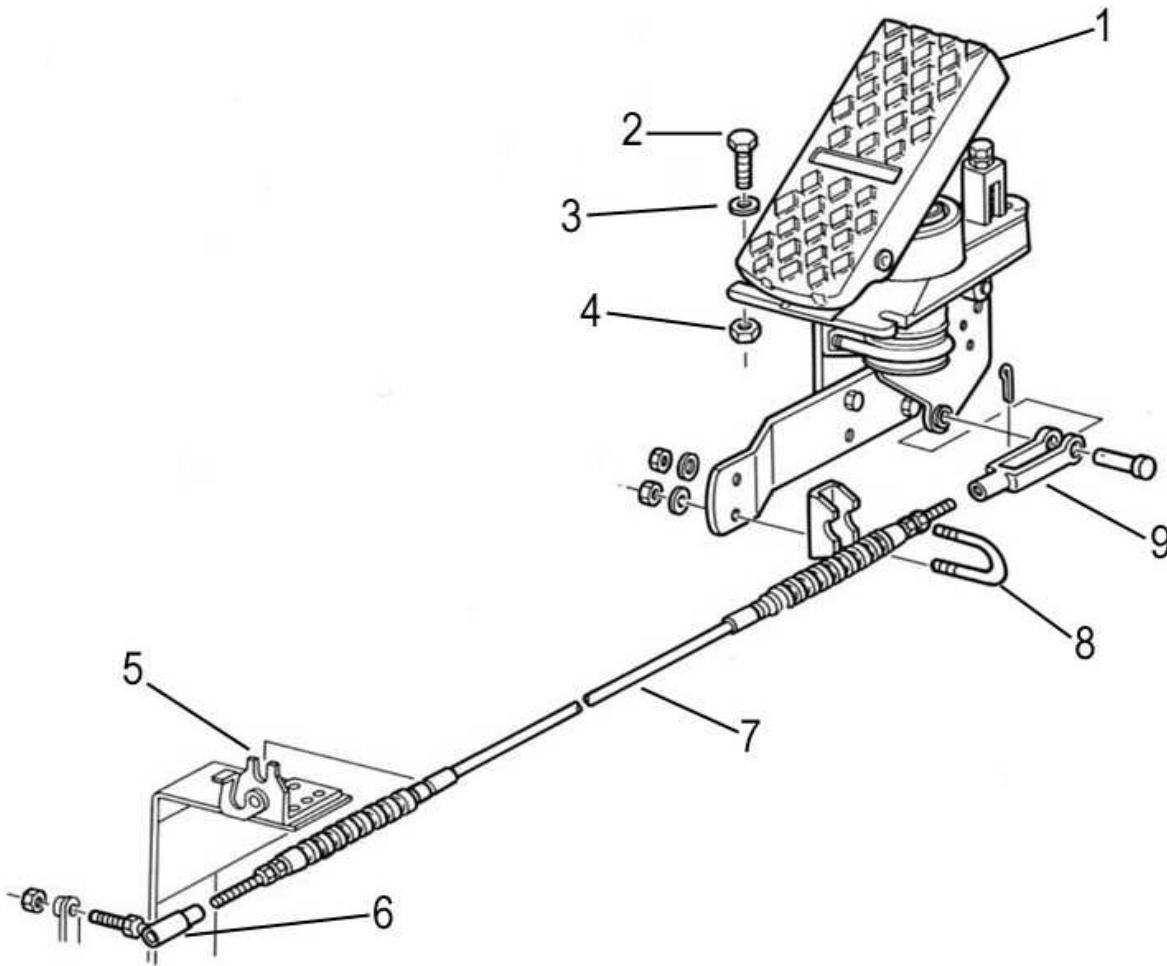
**NOTE PEDAL STYLE.  
FOR REPLACEMENT, ORDER  
ITEM 1b.**

**Parts List**

When ordering replacement parts/kits, please specify model and serial number your unit.

Item	Part Number	Description	Qty
1a	NVSP-14-028-KA	THROTTLE PEDAL, DUAL ANALOG (INCLUDES ADAPTOR HARNESS)	1
1b	NVSP-14-032-KA	THROTTLE PEDAL, DUAL ANALOG (INCLUDES ADAPTOR HARNESS)	---
2	A-TT4-00294	ACC PEDAL MTG PLATE	1
3	NPN	HCS, 5/16-18 UNC X 1.5	1
4	NPN	HCS, 5/16-18 UNC X 1.0	2
5	NPN	LOCK NUT, 5/16-18 UNC	3
6	NPN	FLAT WASHER, 5/16	3
7	NPN	HCS, 1/4-20 UNC X 1.0	3
8	NPN	FLAT WASHER, 1/4	6
9	NPN	LOCK NUT, 1/4-20 UNC	3

18.2 ACCELERATOR PEDAL ASSEMBLY – TIER II



**Parts List**

When ordering replacement parts/kits, please specify model and serial number your unit.

Item	Part Number	Description	Qty
1	A-TT4-00281-1	FOOT PEDAL ASSEMBLY	1
2	NPN	SCREW-HEX CAP-1/4-20 X 1.00 G8	3
3	NPN	WASHER-FLAT-1/4	3
4	NPN	NUT-LOCK-1/4-20	3
5	A-TT4-00285*	ACCEL CABLE BRACKET	1
6	A-TT4-00287	BALL JOINT KIT - NUT INCLUDED	1
7	A-TT4-00282-1	ACCELERATOR CABLE ASSEMBLY	1
8	A-TT4-00247	ACCELERATOR U-BOLT KIT	1
9	A-TT4-00283-1	ACCELERATOR CLEVIS-PIN KIT	1

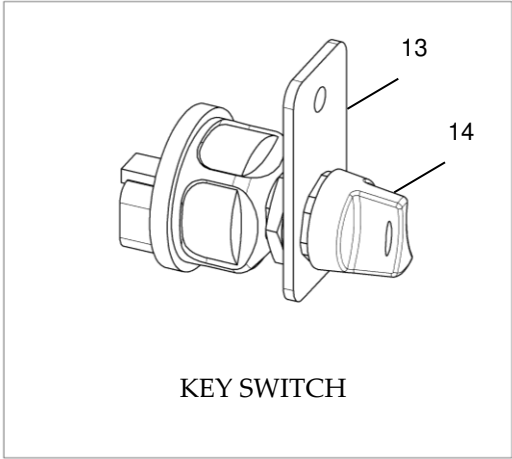
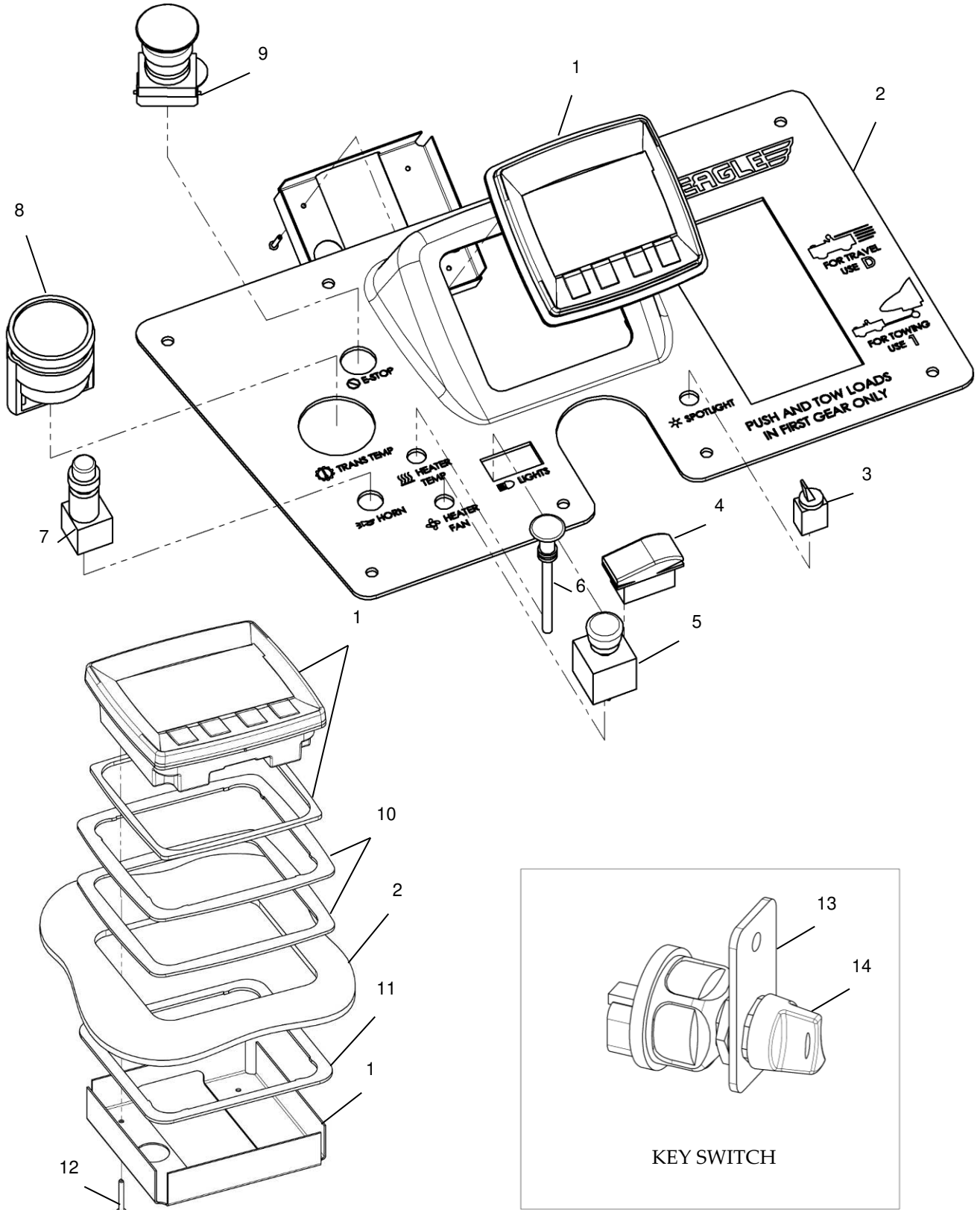
\*TUG MODEL AND SERIAL NUMBER REQUIRED TO ORDER THIS PART



Models: TT-4, TT-5, TT-6, TT-8  
Yanmar Diesel 4TNV98 Engine

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18.3 INSTRUMENT PANEL - SAUER DANFOSS DISPLAY/CONTROLLER



18.3 INSTRUMENT PANEL - SAUER DANFOSS DISPLAY/CONTROLLER

**Parts List**

When ordering replacement parts/kits, please specify model and serial number your unit.

Item	Part Number	Description	Qty
1	A-TT8-00417-P	TT ELECTRONIC DISPLAY	1
2	AB-TT4-00410-SAUER	DASH PANEL (NO INSTRUMENTS)	1
	C-TT4-00411-2	DASH PANEL ONLY (SERVICE PARTS ONLY)	--
3	A-TT4-00433-1	SPOTLIGHT TOGGLE SWITCH(OPTIONAL)	1
4	A-TT4-00423-2	HEADLIGHT SWITCH	1
5	A-TT4-00609	HEATER FAN SWITCH(OPTIONAL)	1
6	A-TT4-00608	HEATER CONTROL CABLE(OPTIONAL)	1
7	A-TT4-00428	HORN BUTTON	1
8	AE-OPT-0152	TRANS TEMP GAUGE (OPTIONAL)	1
9	AE-OPT-0066	E-STOP (OPTIONAL)	1
10	A-TT8-00421	SAUER MOUNTING KIT	1
11	A-TT8-00418	DISPLAY MOUNTING RING	1
12	A-TT8-00413	M3X20 DISPLAY MOUNTING SCREW NOTE: MUST BE INSTALLED WITH THREAD LUBRICANT	4
13	NVSP-14-025-SA	KEY SWITCH BRACKET	1
14	NVSP-05-005-CA	SEALED KEY SWITCH, 3-POSITION	1
	NVSP-05-005-CB	SEALED KEYLESS SWITCH, 3-POSITION (OPTIONAL)	1
	NVSP-14-026-KA	SEALED KEY SWITCH WITH PIGTAIL ADAPTER	1
	NVSP-14-026-KB	SEALED KEYLESS SWITCH WITH PIGTAIL ADAPTER	1
N/S	NVSP-55-001-KA	KEY SWITCH PIGTAIL	--
N/S	NVSP-14-044-CA	PANEL PLUG, Ø.50	--
N/S	H-3044-12	PANEL PLUG, Ø.78	--
N/S	H-3044-20	PANEL PLUG, Ø2.0	--

Note: For tractors supplied with a key switch that used ring terminal connections, a pigtail jumper must be used if replacing the key switch

**Eagle Tugs TT-series Quick Start Guide**

**Powering up the tractor:**

Verify that the transmission is in "Park" or "Neutral."  
Verify that the parking brake has been set.  
Turn the ignition switch to the "ON" position.

**Starting the Engine:**

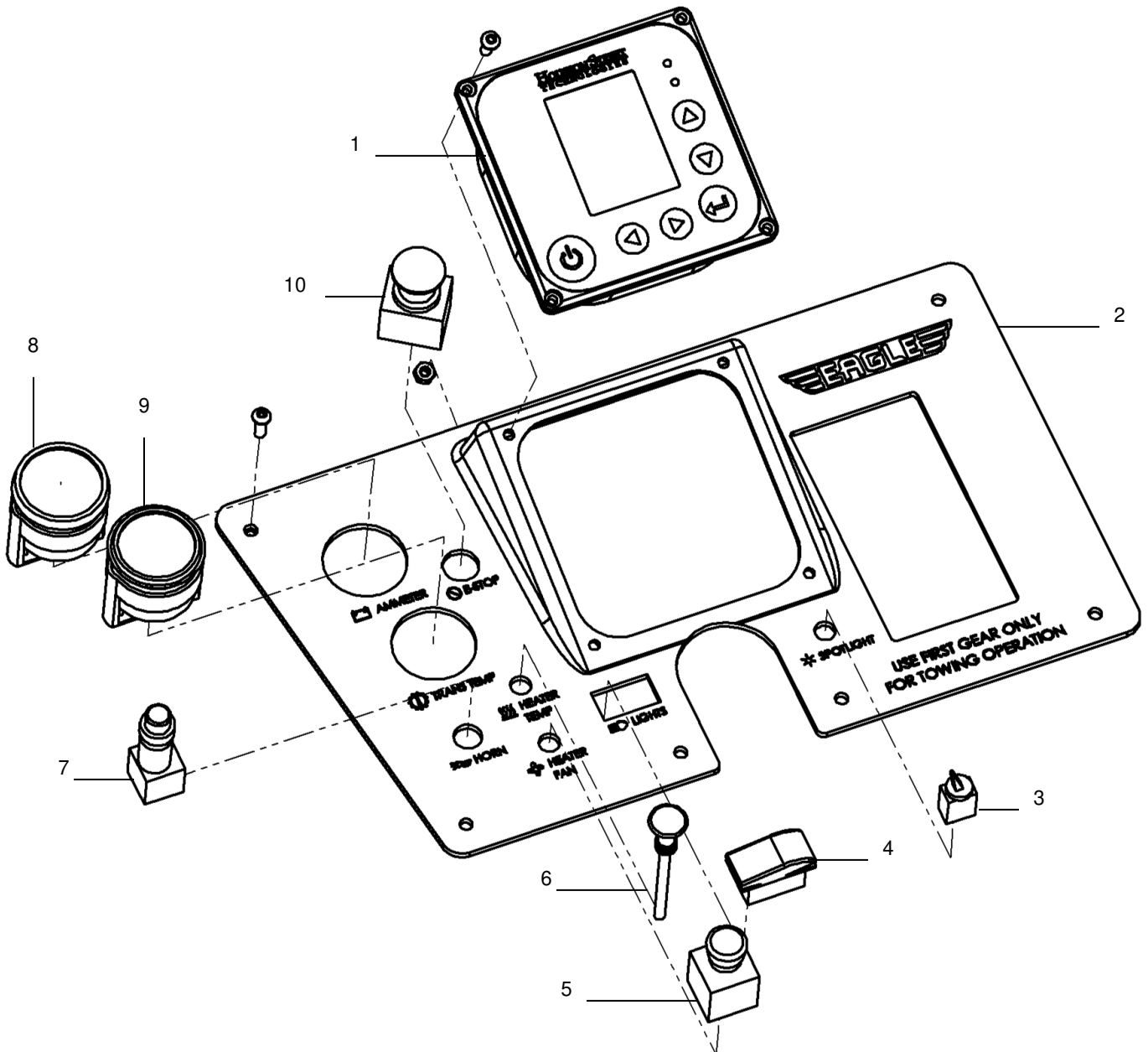
Once the Sauer display panel has booted up, it will prompt you to turn the ignition switch to crank the engine.  
*\*For cold weather operation, the display will prompt you to wait for the engine warm-up before prompting you to crank the engine.*

**Turning off the Engine:**

Bring the tractor to a complete stop.  
Set the parking brake.  
Turn the ignition switch to the "OFF" position.



18.4 INSTRUMENT PANEL - H30 DISPLAY/CONTROLLER - NO LONGER AVAILABLE



18.4 INSTRUMENT PANEL - H30 DISPLAY/CONTROLLER - NO LONGER AVAILABLE

### Parts List

When ordering replacement parts/kits, please specify model and serial number your unit.

Item	Part Number	Description	Qty
1	A-TT8-00415	ELECTRONIC CONTROLLER DISPLAY	1
2	C-TT4-00411-1	DASH PANEL (NO INSTRUMENTS)	1
3	A-TT4-00433-1	SPOTLIGHT TOGGLE SWITCH(OPTIONAL)	1
4	A-TT4-00423-2	HEADLIGHT SWITCH	1
5	A-TT4-00609	HEATER FAN SWITCH(OPTIONAL)	1
6	A-TT4-00608	HEATER CONTROL CABLE(OPTIONAL)	1
7	A-TT4-00428	HORN BUTTON	1
8	AE-OPT-0084	AMMETER GAUGE (OPTIONAL)	1
9	AE-OPT-0152	TRANS TEMP GAUGE (OPTIONAL)	1
10	AE-OPT-0066	E-STOP (OPTIONAL)	1

## Eagle Tugs TT-series Quick Start Guide

### Powering up the H30 Display Panel:

Pressing the **POWER** button will turn on the H30 control panel

\*On key ignition equipped units, turn the key to the on position

And then press the **POWER** button.

### Starting the Engine:

Once the H30 panel has booted up, it will prompt you to hold the **ENTER** key to crank the engine. Hold the **ENTER** key until the unit starts.

\*For cold weather operation, the display will prompt you to wait for the engine warm-up before prompting you to crank the engine.

### Turning off the Engine:

To turn off the engine, press the **POWER** button.

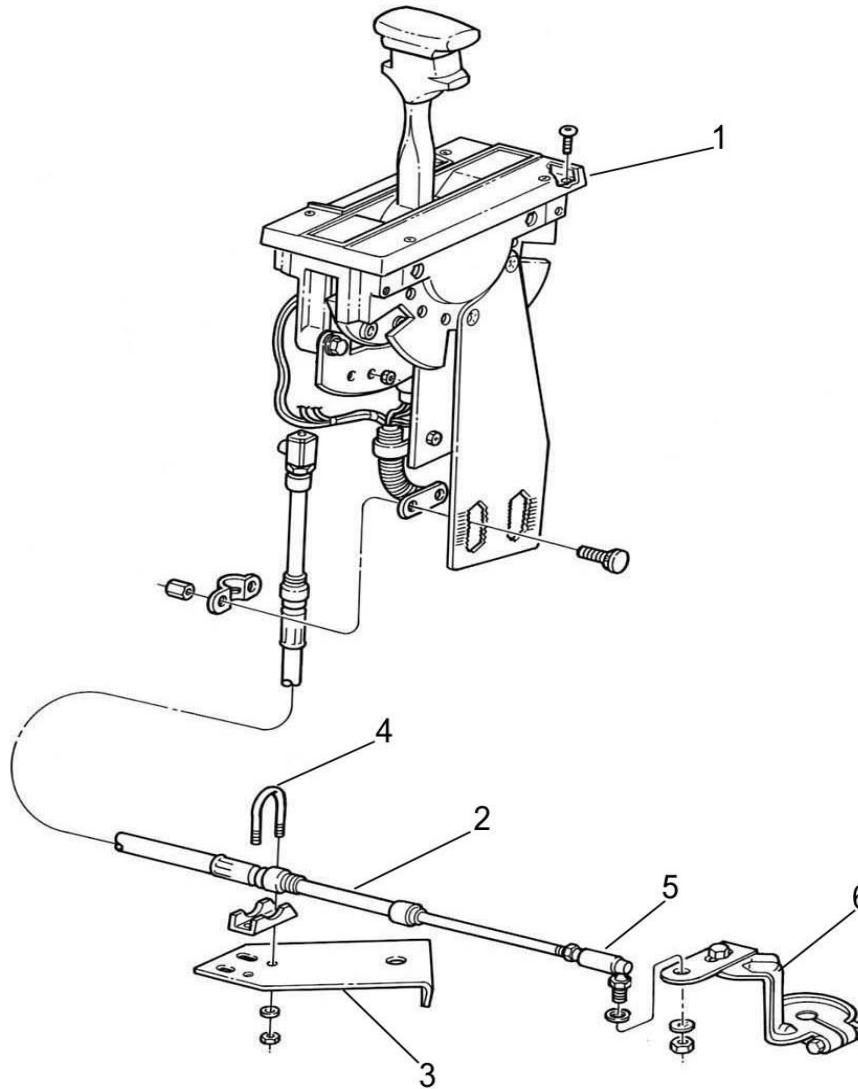
\*On key ignition equipped units, turn the key to the off position after the display panel has turned off.



POWER button

ENTER button

18.5 TRANSMISSION CONTROL

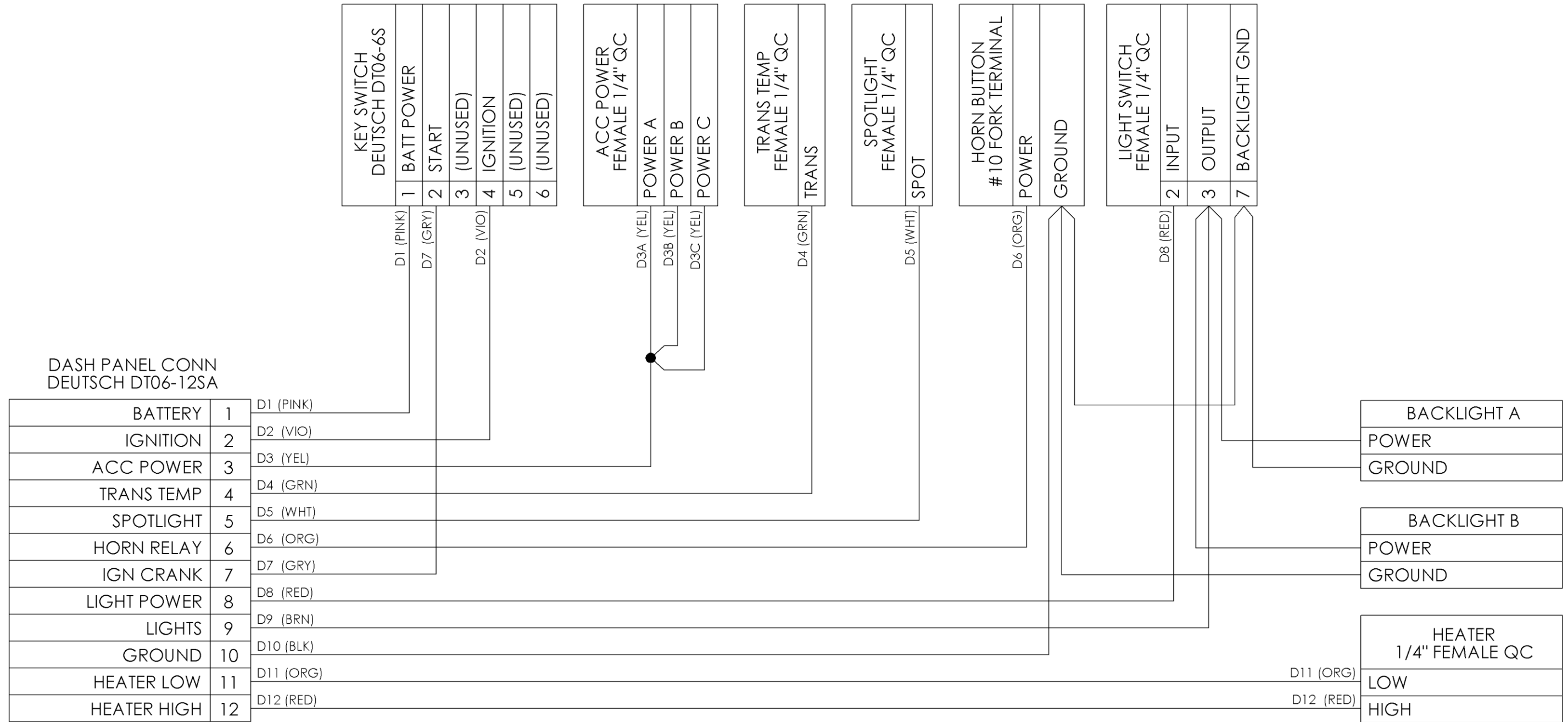


**Parts List**

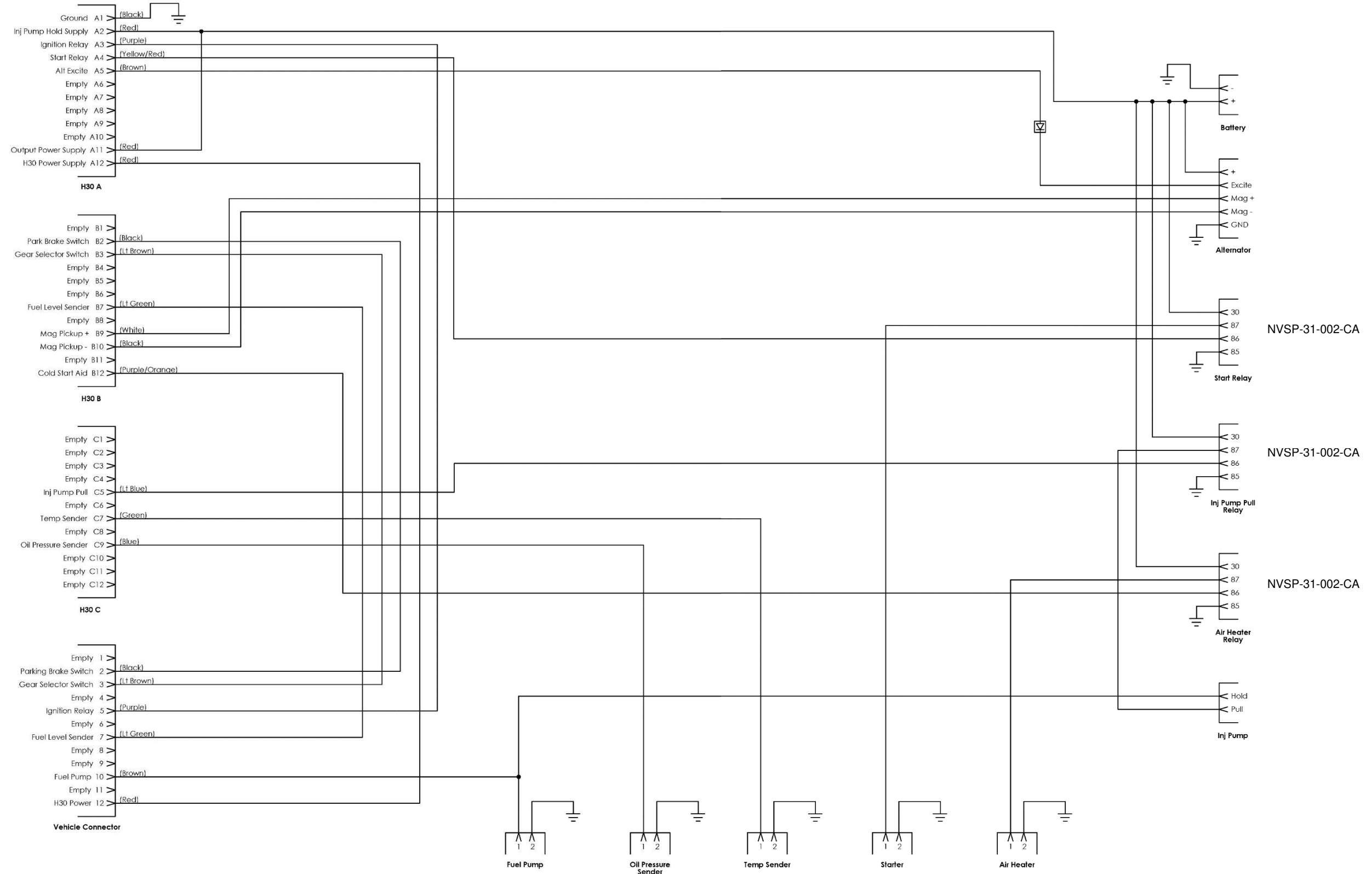
When ordering replacement parts/kits, please specify model and serial number your unit.

Item	Part Number	Description	Qty
1	A-TT4-00245	TRANSMISSION SHIFT CONTROL	1
2	A-TT4-00246	TRANSMISSION SHIFT CABLE 120'	1
3	A-TT4-00248	TRANSMISSION CABLE BRACKET ASSEMBLY	1
4	A-TT4-00247	U-BOLT KIT	1
5	A-TT4-00249	BALL JOINT KIT	1
6	A-TT4-00419	TRANSMISSION LEVER	1
7	302008	INDICATOR STRIP REPAIR KIT(NS)	1
8	302348	HANDLE REPAIR KIT(NS)	1

19.0 ELECTRICAL SCHEMATICS  
19.1 DASH WIRING HARNESS

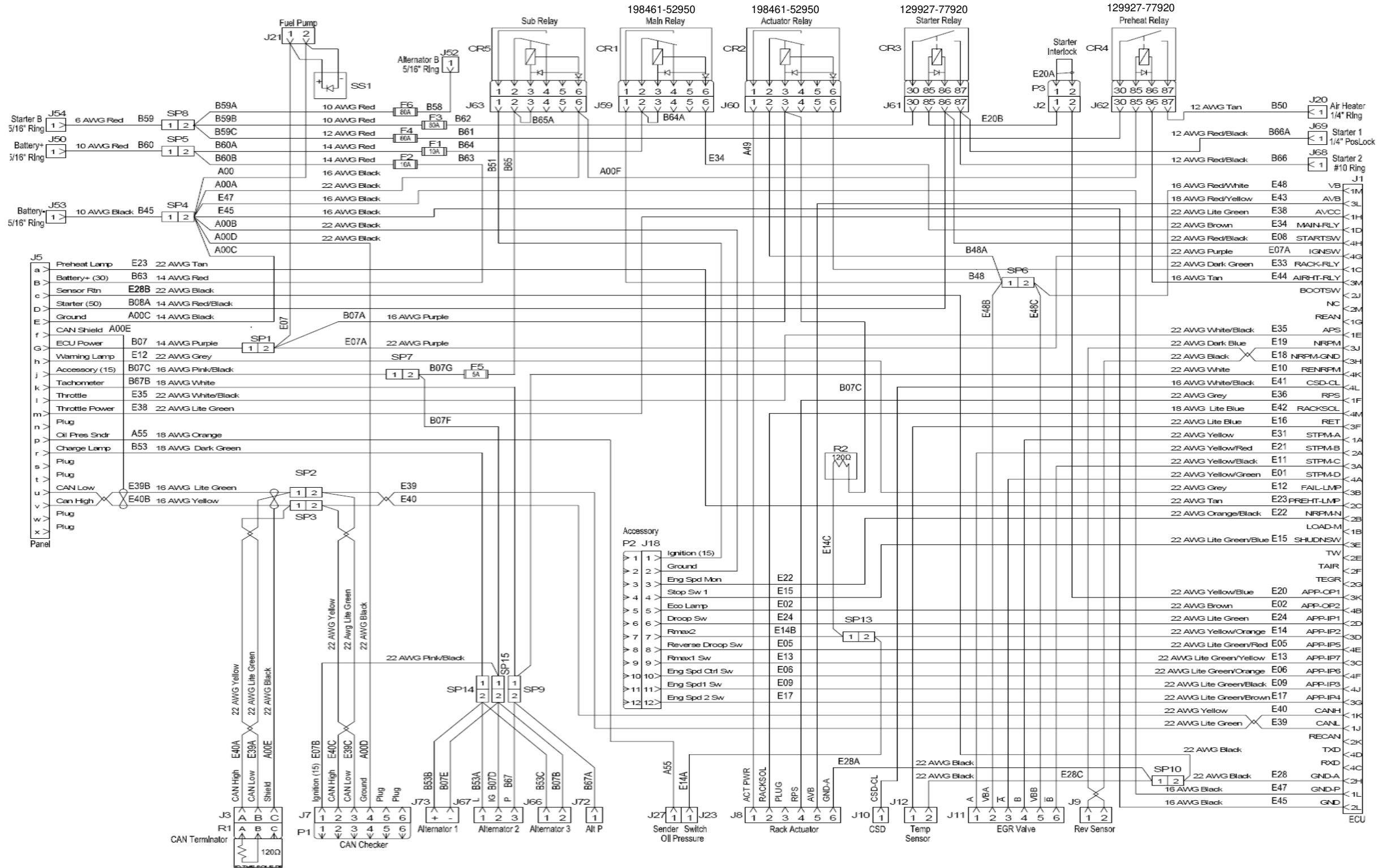


19.2 ENGINE WIRING HARNESS – TIER II

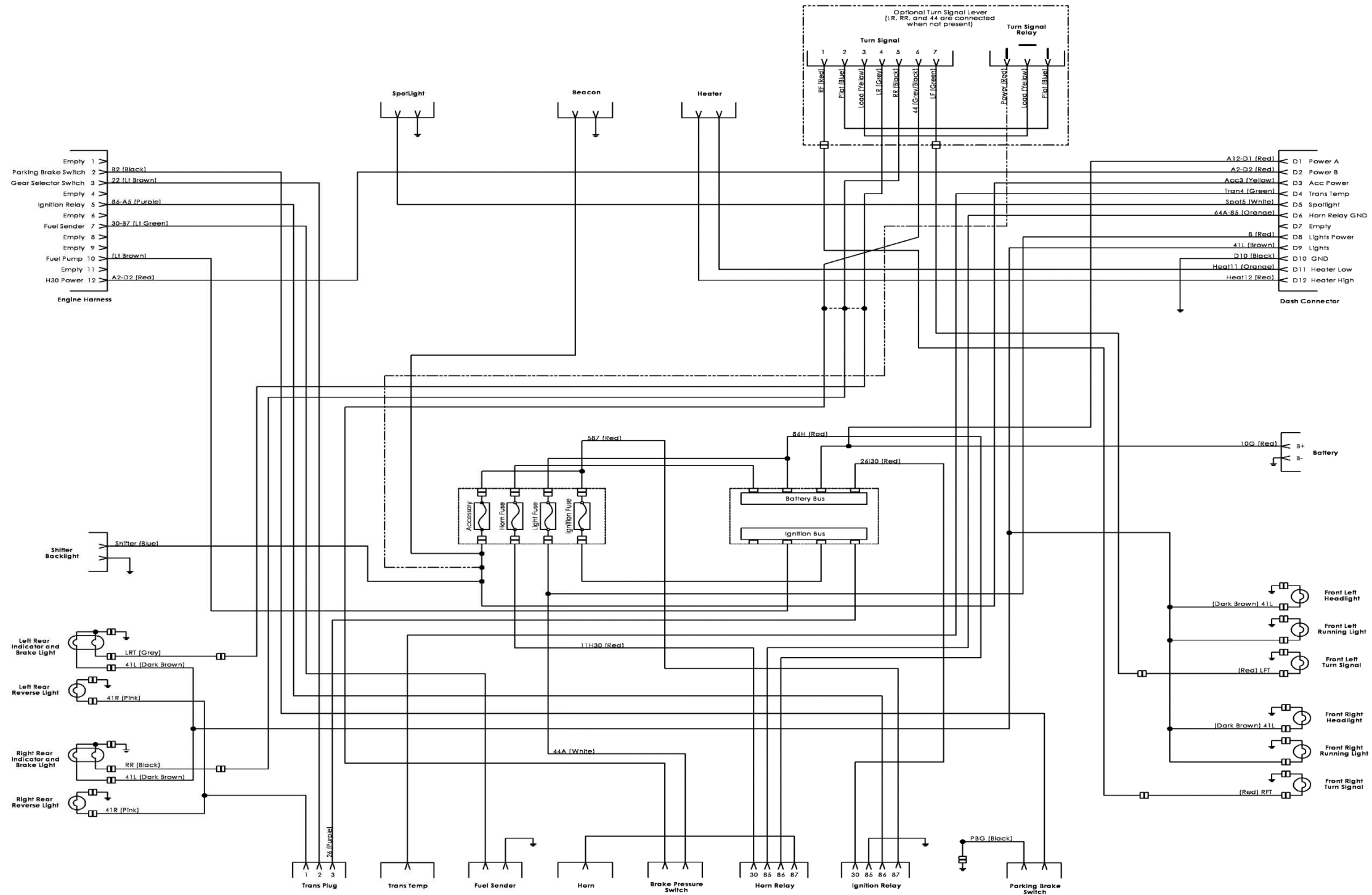


Engine Wiring Harness,  
Tier 2, 4TNV98

19.3 ENGINE WIRING HARNESS – TIER III

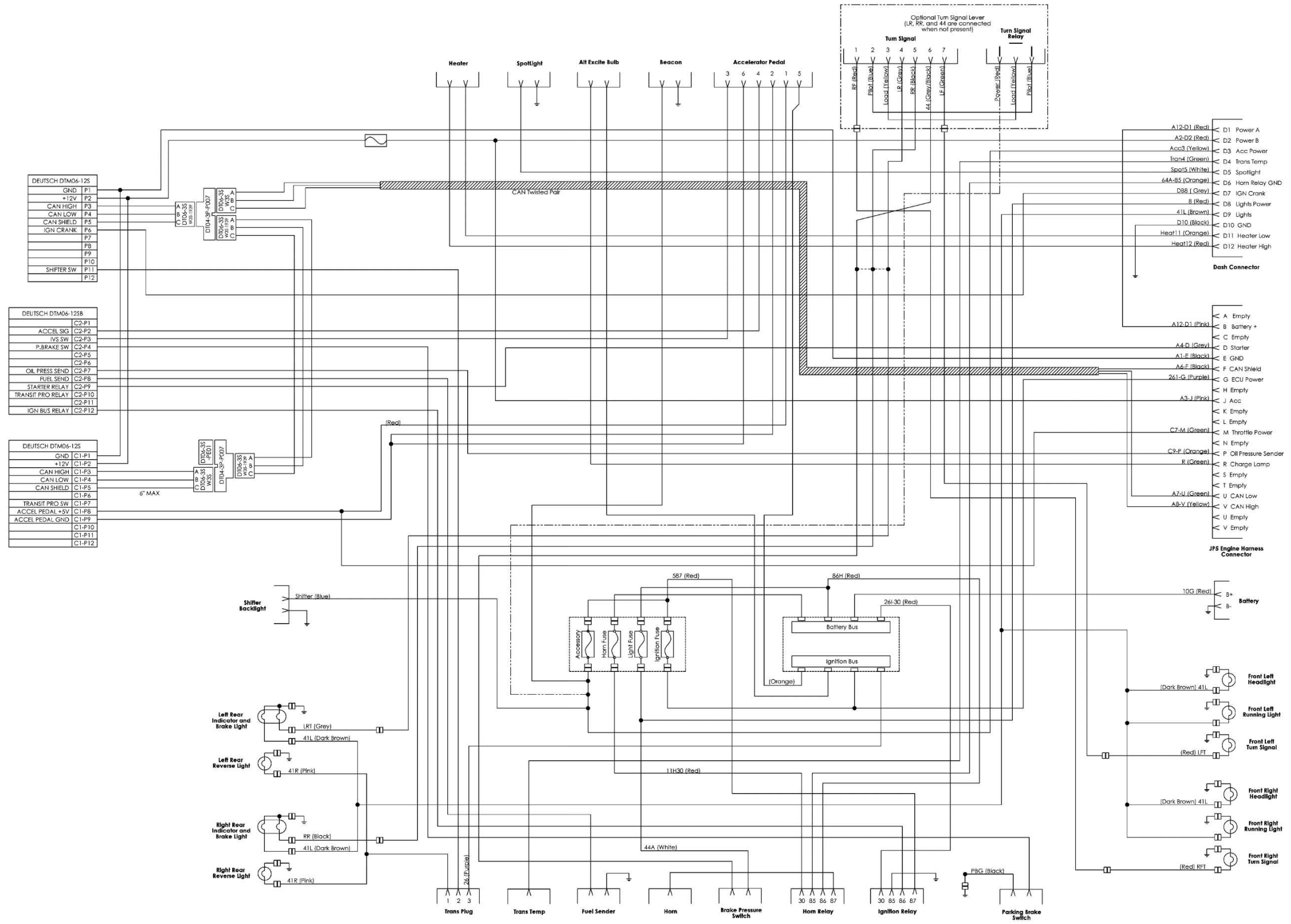


19.4 VEHICLE WIRING HARNESS – TIER II



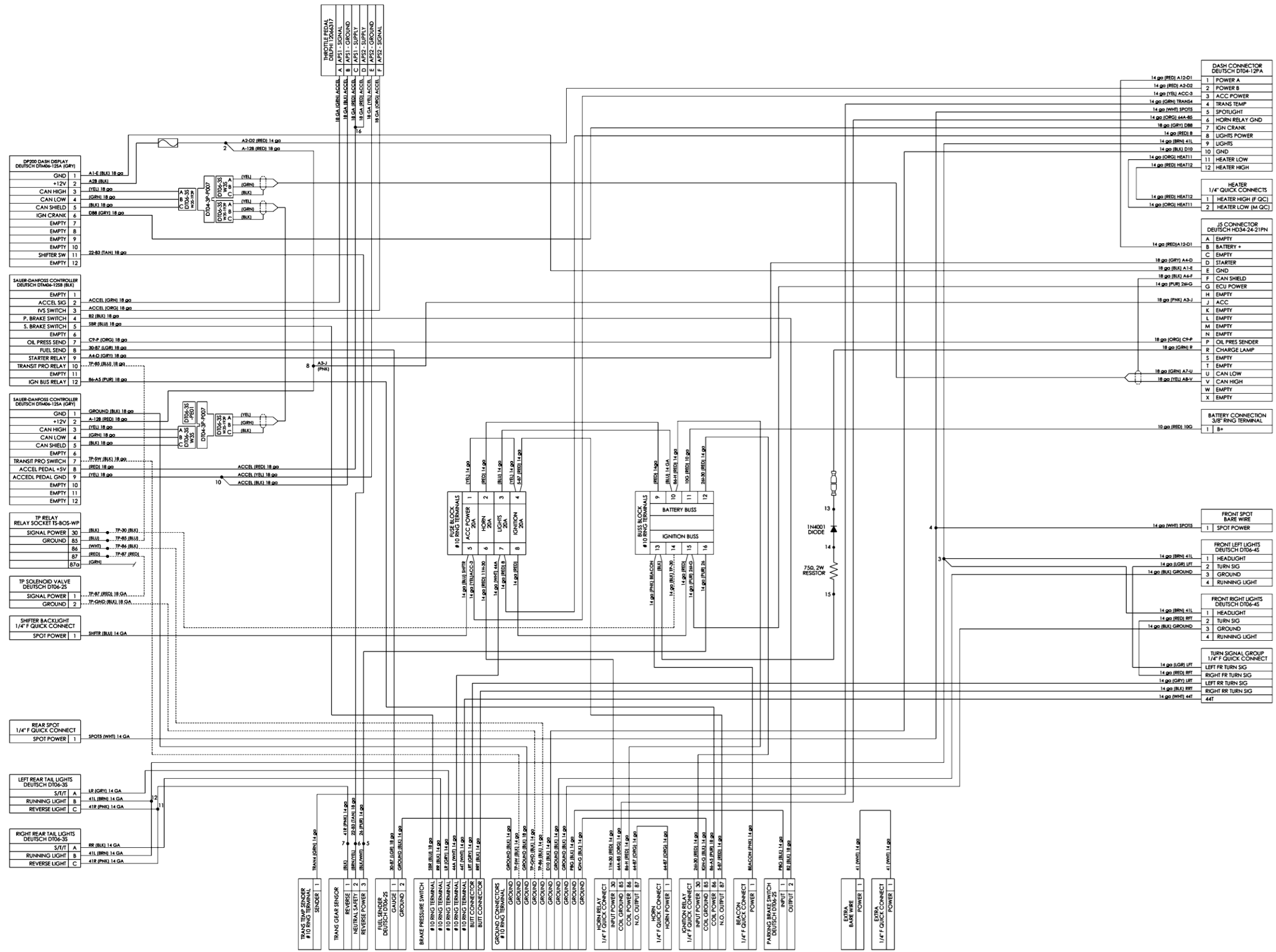
Vehicle Harness, Tier2 4TNV98

19.5 VEHICLE WIRING HARNESS – TIER III (PRIOR TO 10/2013)

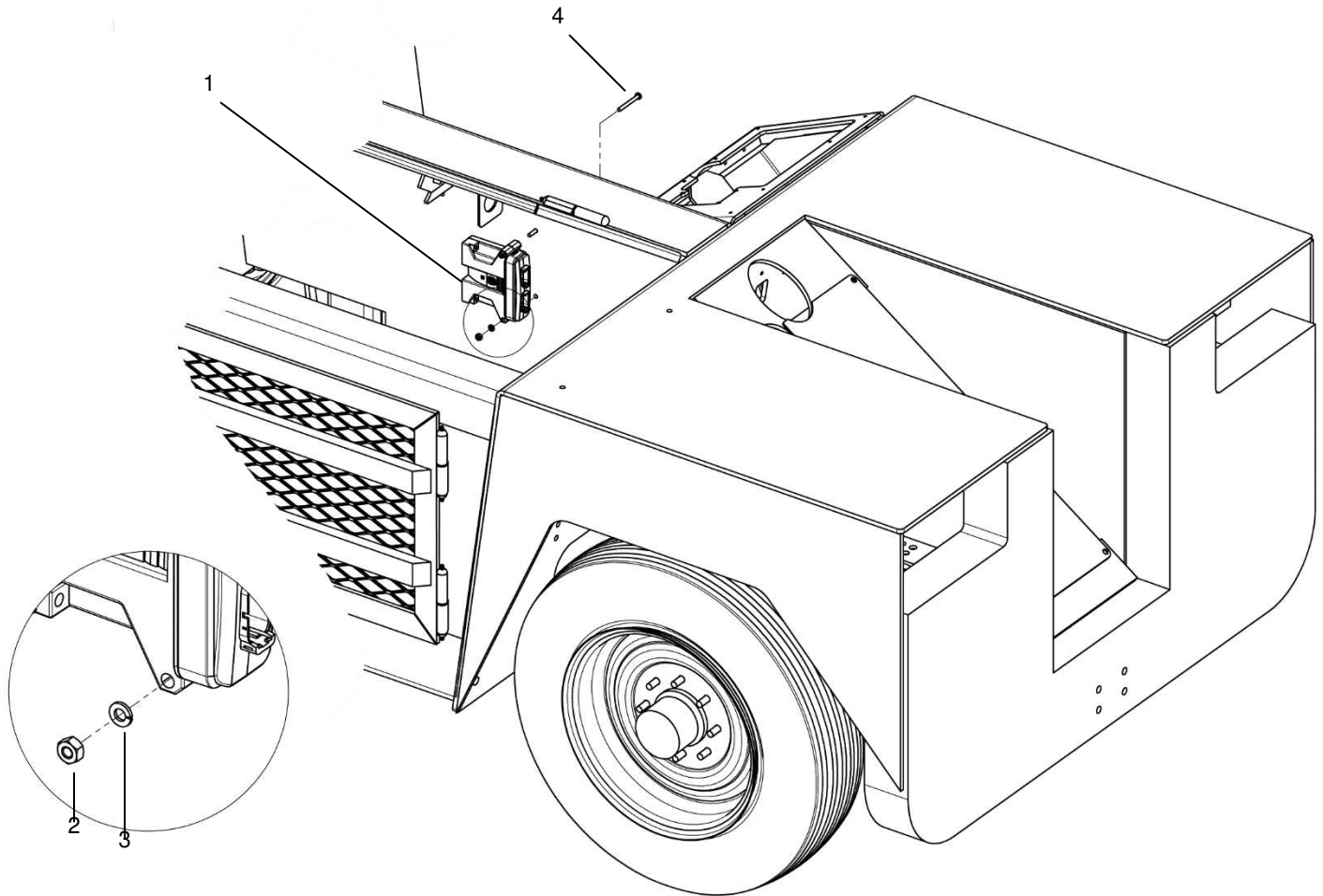




19.7 VEHICLE WIRING HARNESS – TIER III (9/2014 AND LATER)



19.8 VEHICLE LOGIC CONTROLLER – SAUER DANFOSS DISPLAY/CONTROLLER



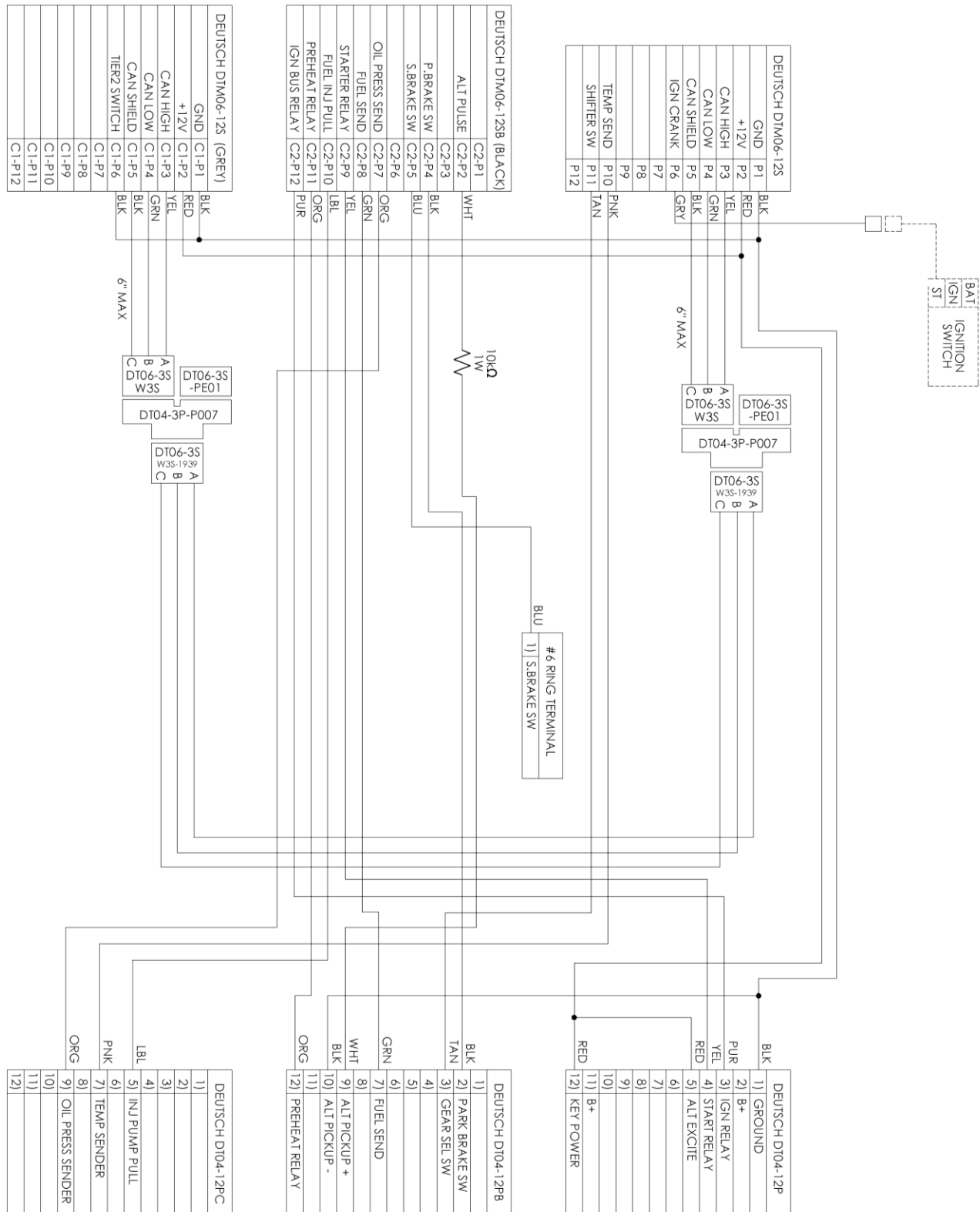
**Parts List**

When ordering replacement parts/kits, please specify model and serial number your unit.

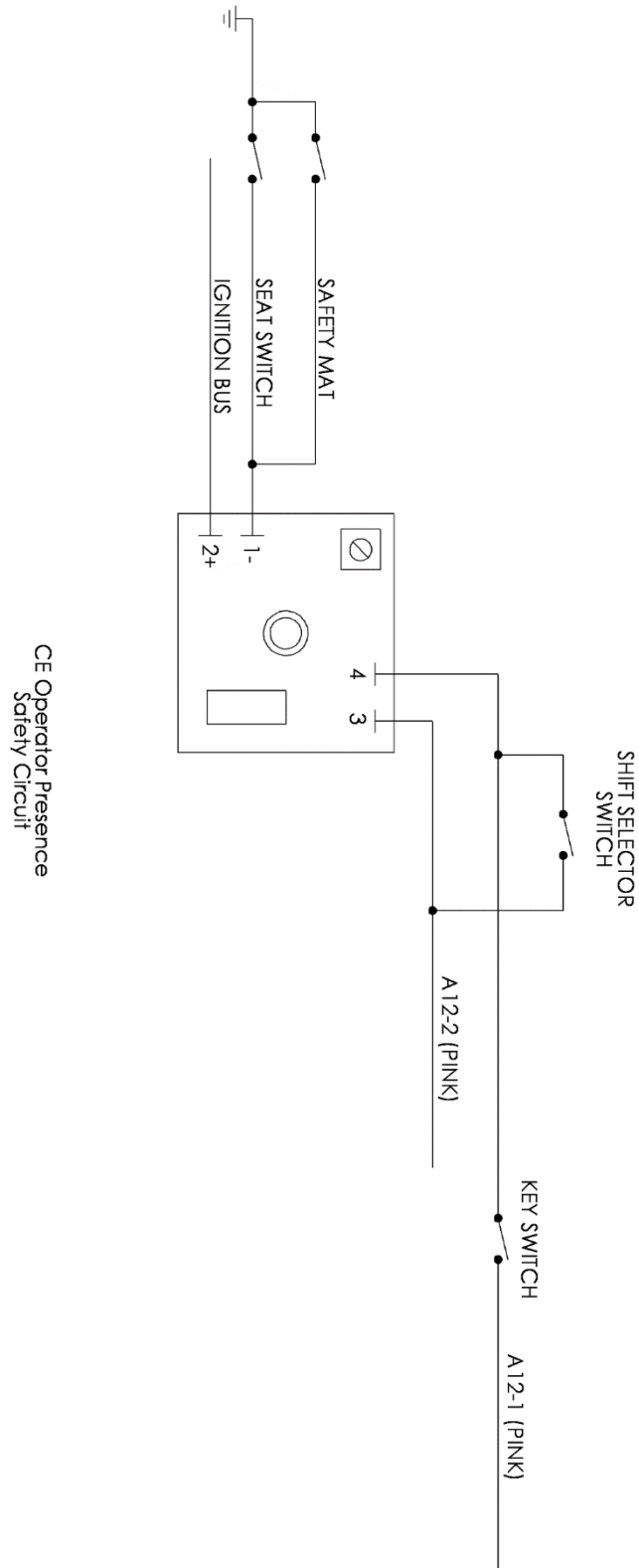
Item	Part Number	Description	Qty
1	A-TT8-00415-1	TT ELECTRONIC CONTROLLER	1
2	NPN	1/4 SPRING LOCK WASHER	2
3	NPN	1/4-20 HEX NUT	2
4	NPN	1/4-20 X 2 3/4 PAN HEAD MACHINE SCREW	1

19.9 VEHICLE LOGIC HARNESS – TIER II WITH SAUER DANFOSS CONTROLLER

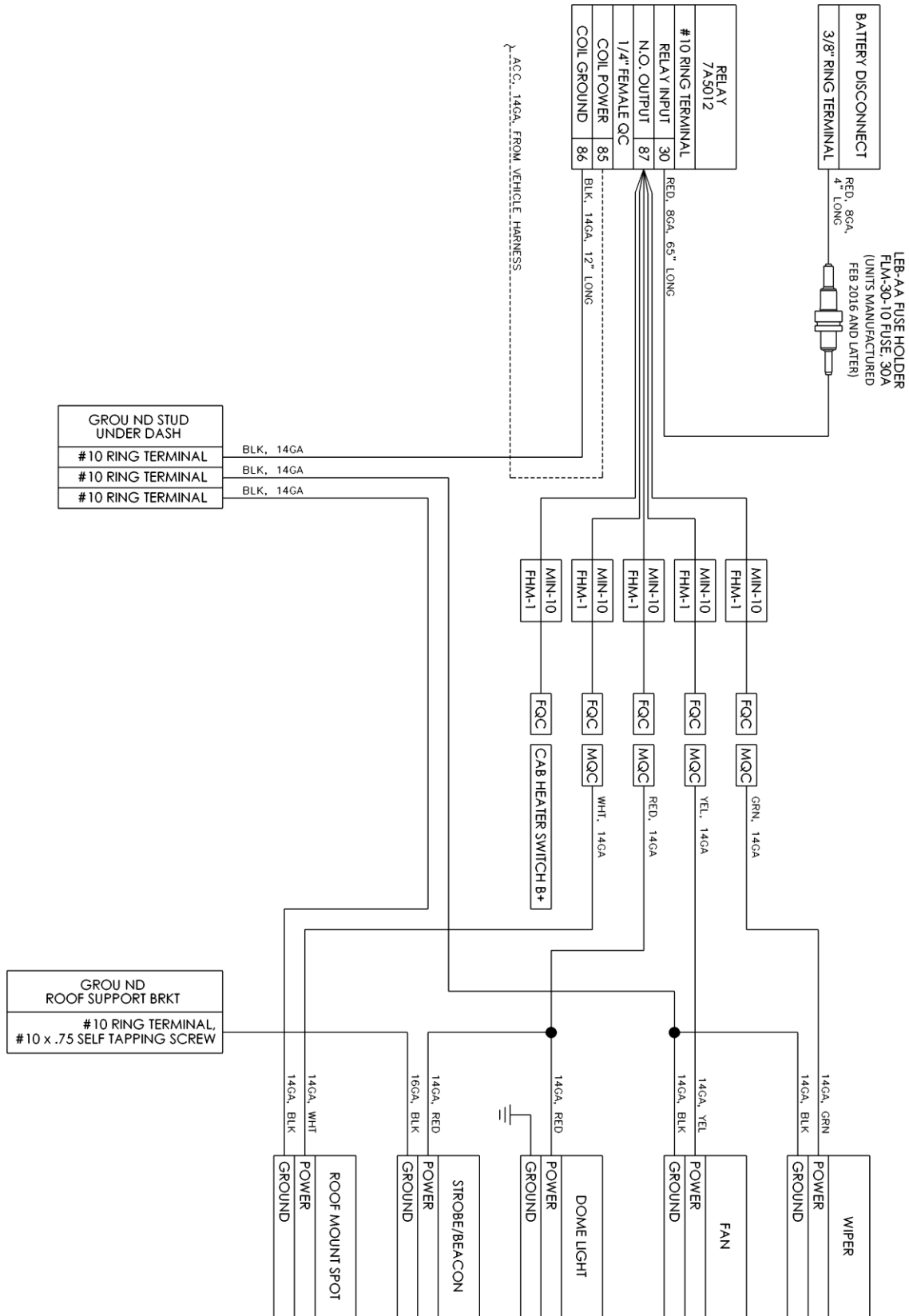
Note: Resistor not present on all S/N's.



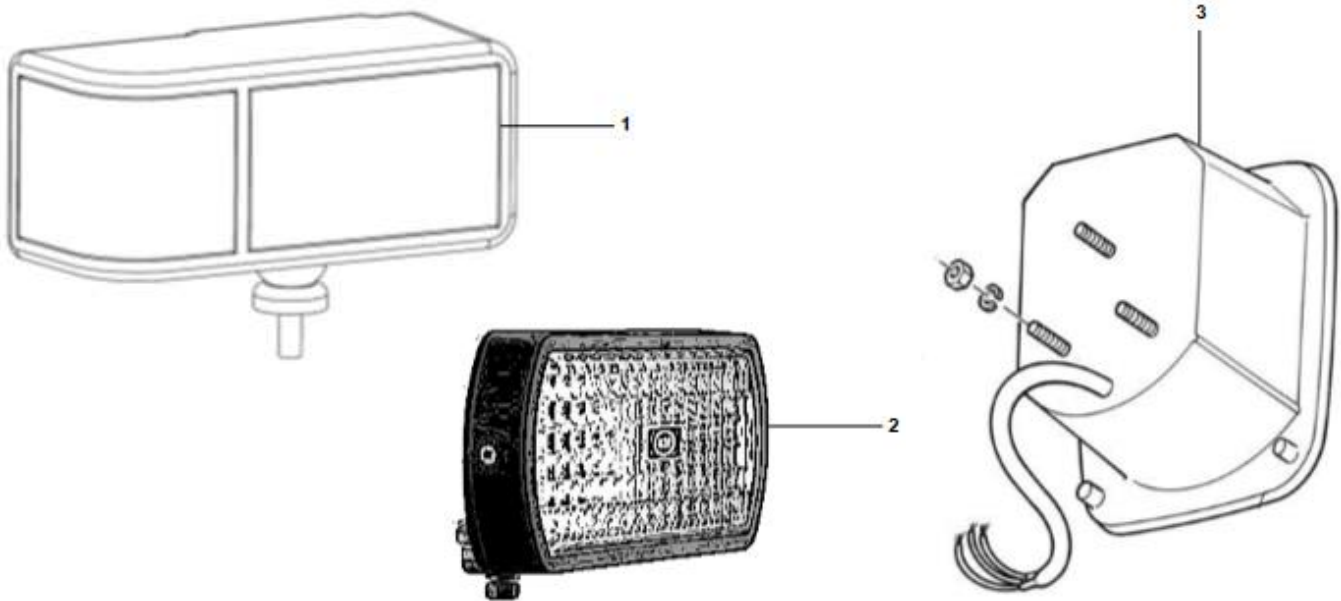
19.10 CE OPTION –OPERATOR PRESENCE CIRCUIT WIRING DIAGRAM



19.11 CAB OPTION WIRING DIAGRAM



**20.0 LIGHTS & ELECTRICAL**  
20.1 HEADLIGHT, TAILLIGHT & SPOTLIGHT ASSEMBLY

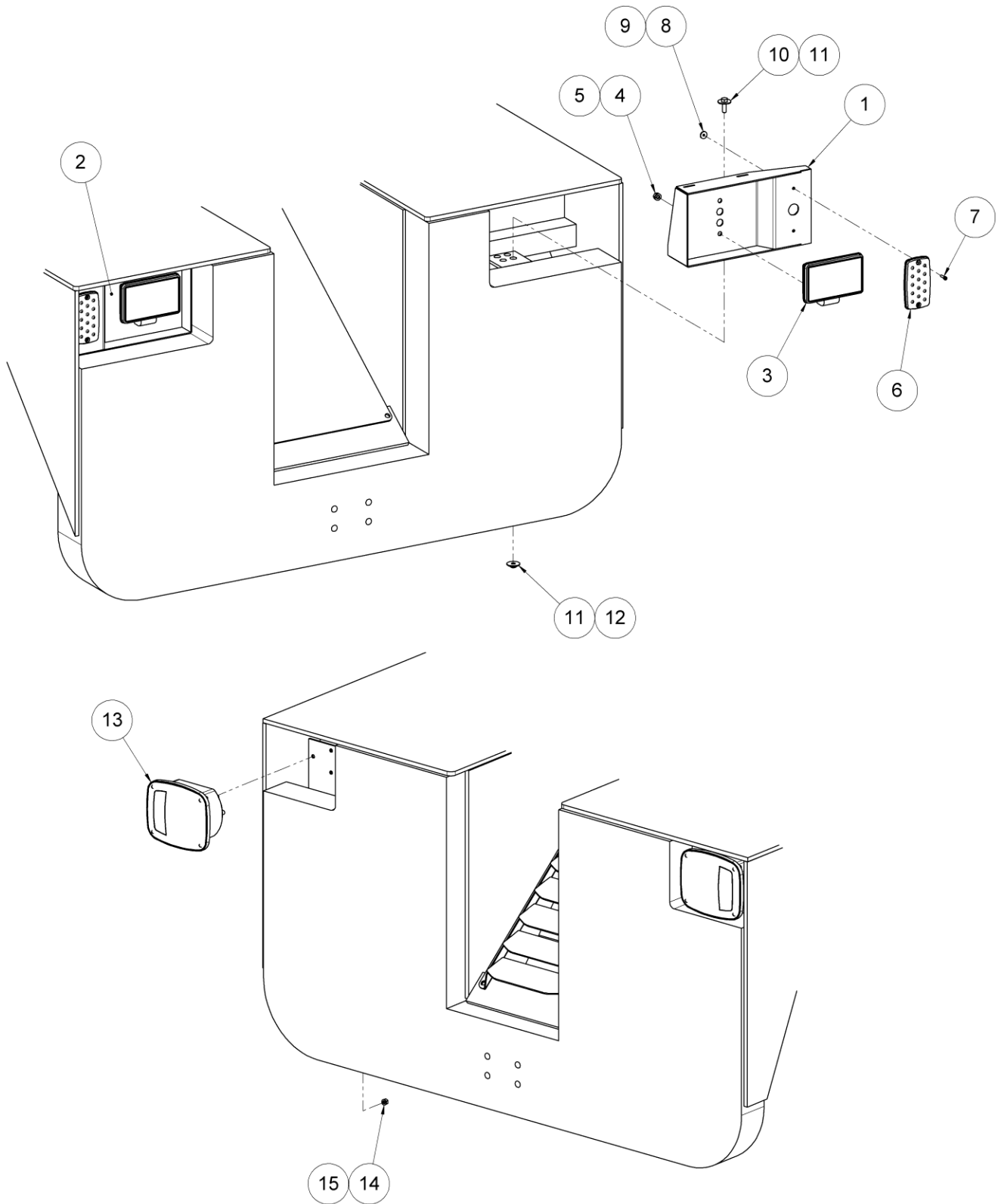


**Parts List**

When ordering replacement parts/kits, please specify model and serial number your unit.

Item	Part Number	Description	Qty
<b>HEADLIGHT</b>			
1	A-TT4-00291-6	HEADLIGHT W/ (OPTIONAL) TURN SIGNAL	2
2	A-TT4-00291-5	REAR FACING SPOT LIGHT (OPTION)	1
3	A-TT4-00292	TAILLIGHT	2
<b>TAILLIGHT ASSEMBLY</b>			
4	73-1912	TAIL LENS COVER	2
5	1157	REPLACEMENT BRAKE LIGHT BULB	2
6	1156	REPLACEMENT REVERSE LIGHT BULB	2
<b>HEADLIGHT &amp; SPOTLIGHT</b>			
7	H6545	REPLACEMENT HEADLIGHT SEALED BEAM	2
8	1157	REPLACEMENT TURN SIGNAL BULB	2
9	H3	REPLACEMENT BULB, SPOTLIGHT	1
<b>OPTIONS NOT SOWN</b>			
10	AE-OPT-0076	ROOF MOUNTED TURN SIGNAL LAMP	2
11	AE-OPT-0099A	MASTER BATTERY DISCONNECT SWITCHPLOCKOUT LEVER KIT (OPTION)	1
<b>MISC ELECTRICAL PARTS</b>			
11	AE-OPT-0099	MASTER BATTERY DISCONNECT SWITCH	1
12	A-TT3-0010	25 AMP ACG GLASS ROUND FUSE	4
13	A-TT4-00299	FUSE BLOCK (W/O FUSES)	1
14	A-TT4-00300	TERMINAL BLOCK	1
15	K-5351	STARTER CABLE SET	1

20.2 HEADLIGHT AND TAIL LIGHT ASSEMBLIES



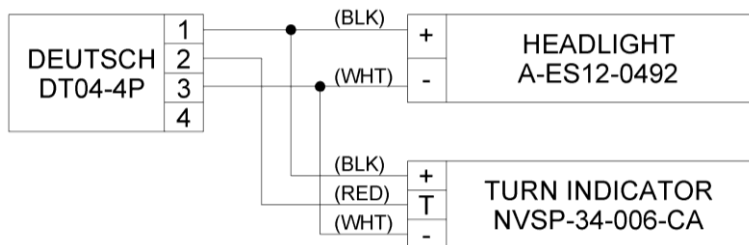
20.2 HEADLIGHT AND TAIL LIGHT ASSEMBLIES

**Parts List**

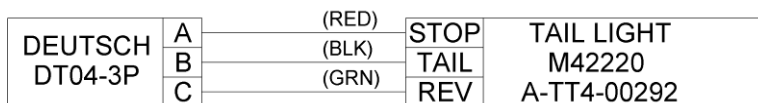
When ordering replacement parts/kits, please specify model and serial number your unit.

Item	Part Number	Description	Qty
1	TT08-02-003-SA	LED FRONT LIGHT POCKET, LH	1
2	TT08-02-003-SB	LED FRONT LIGHT POCKET, RH	1
3	A-ES12-0492	LED HEADLIGHT, RECTANGLE	2
4	NPN	LOCK WASHER, 5/16 (INCLUDED WITH ITEM 3)	2
5	NPN	HEX NUT, 5/16-18 UNC (INCLUDED WITH ITEM 3)	2
6	NVSP-34-006-CA	LED AMBER TURN INDICATOR	2
7	NPN	SHCS, #8-32 UNC X .625, SS	4
8	NPN	FLAT WASHER, #8	4
9	NPN	LOCK NUT, NYLON INSERT, #8-32 UNC, SS	4
10	NPN	HCS, 5/16-18 UNC X 1	2
11	NPN	FLAT WASHER, 5/16	4
12	NPN	LOCK NUT, 5/16-18 UNC	2
13	M42220	LED STOP/TAIL/TURN LIGHT	2
14	NPN	LOCK WASHER, 1/4	6
15	NPN	HEX NUT, 1/4-20 UNC	6
N/A	DT04-4P	DEUTSCH ELECTRICAL CONNECTOR (INSTALLED TO ITEMS 3 & 6)	2
N/A	W4P	CONNECTOR LOCK (INSTALLED TO ITEMS 3 & 6)	2
N/A	0460-215-16141	CONNECTOR TERMINAL (INSTALLED TO ITEMS 3 & 6)	6
N/A	114017	CONNECTOR SOCKET PLUG (INSTALLED TO ITEMS 3 & 6)	2
N/A	DT04-3P	DEUTSCH ELECTRICAL CONNECTOR (INSTALLED TO ITEM 13)	2
N/A	W3P	CONNECTOR LOCK (INSTALLED TO ITEM 13)	2
N/A	0460-215-16141	CONNECTOR TERMINAL (INSTALLED TO ITEM 13)	6

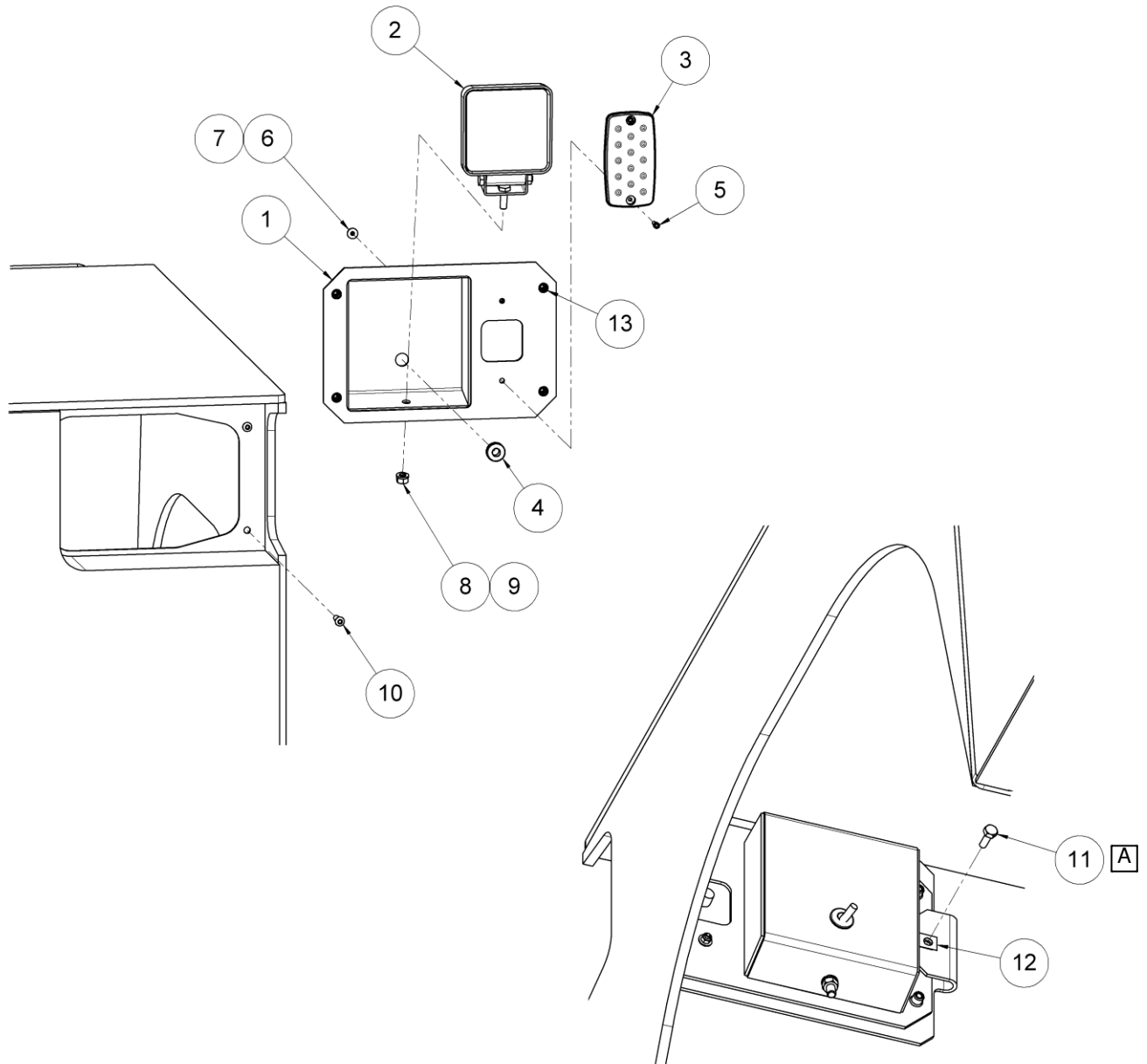
Items 3 and 6 to be wired as shown below



Item 13 to be wired as shown below



20.3 HEADLIGHT ASSEMBLY



**A** Install specified components using Loctite® Thread locker Blue 242® thread retaining compound or comparable.



20.3 HEADLIGHT ASSEMBLY

**Parts List**

When ordering replacement parts/kits, please specify model and serial number your unit.

Item	Part Number	Description	Qty
1	ET12-02-001-SA	LH HEADLIGHT POCKET	1
N/A	ET12-02-001-SB	RH HEADLIGHT POCKET	1
2	NVSP-34-007-CA	HEADLIGHT, LED, SQUARE 500 LUMEN	2
3	NVSP-34-006-CA	LED AMBER TURN INDICATOR	2
4	AE-OPT-0320-E	SILICONE GROMMET, 3/8	2
5	NPN	SHCS, #8-32 UNC X .625, SS	2
6	NPN	FLAT WASHER, #8	2
7	NPN	LOCK NUT, NYLON INSERT, #8-32 UNC, SS	2
8	NPN	LOCK WASHER (PART OF ITEM 2)	2
9	NPN	NUT (PART OF ITEM 2)	2
10	NPN	BHCS, 1/4-20 UNC X 1, SS	4
11	NPN	HCS, 1/4-20 UNC X .75	2
12	NVSP-21-023CA	CLIP-ON NUT, 1/4-20 UNC	2
13	NPN	RIVET NUTS, 1/4-20 UNC	8
N/A	DT04-4P	ELECTRICAL CONNECTOR (INSTALLED TO ITEM 2)	2
N/A	W4P	CONNECTOR LOCK (INSTALLED TO ITEM 2)	2
N/A	0460-215-16141	CONNECTOR PINS (INSTALLED TO ITEM 2)	4
N/A	DT04-3P	ELECTRICAL CONNECTOR (INSTALLED TO ITEM 3)	2
N/A	W3P	CONNECTOR LOCK (INSTALLED TO ITEM 3)	2
N/A	0460-215-16141	CONNECTOR PINS (INSTALLED TO ITEM 3)	6

Item 2 to be wired as shown below

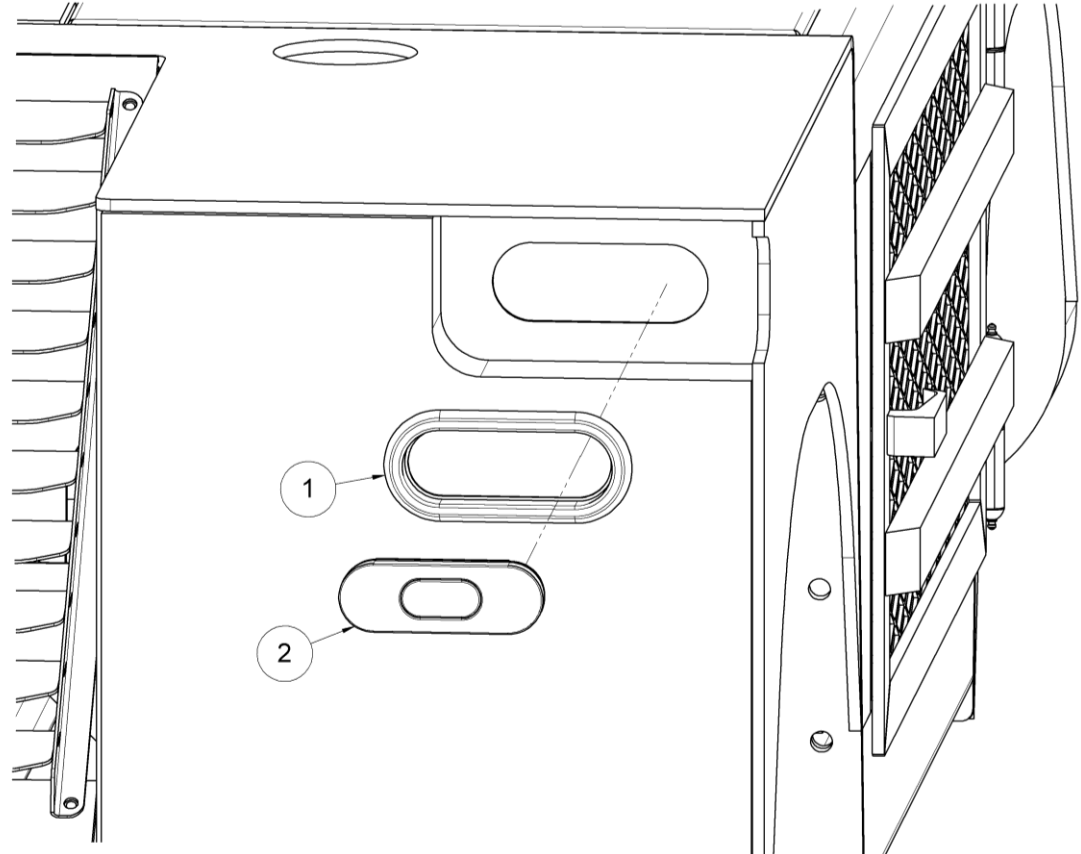


Item 3 to be wired as shown below



\*It is recommended that the connector pins listed in the table above be purchased with any replacement light(s). Failure to purchase the pins will require splicing/cutting to complete light replacement.

20.4 TAIL LIGHT ASSEMBLY

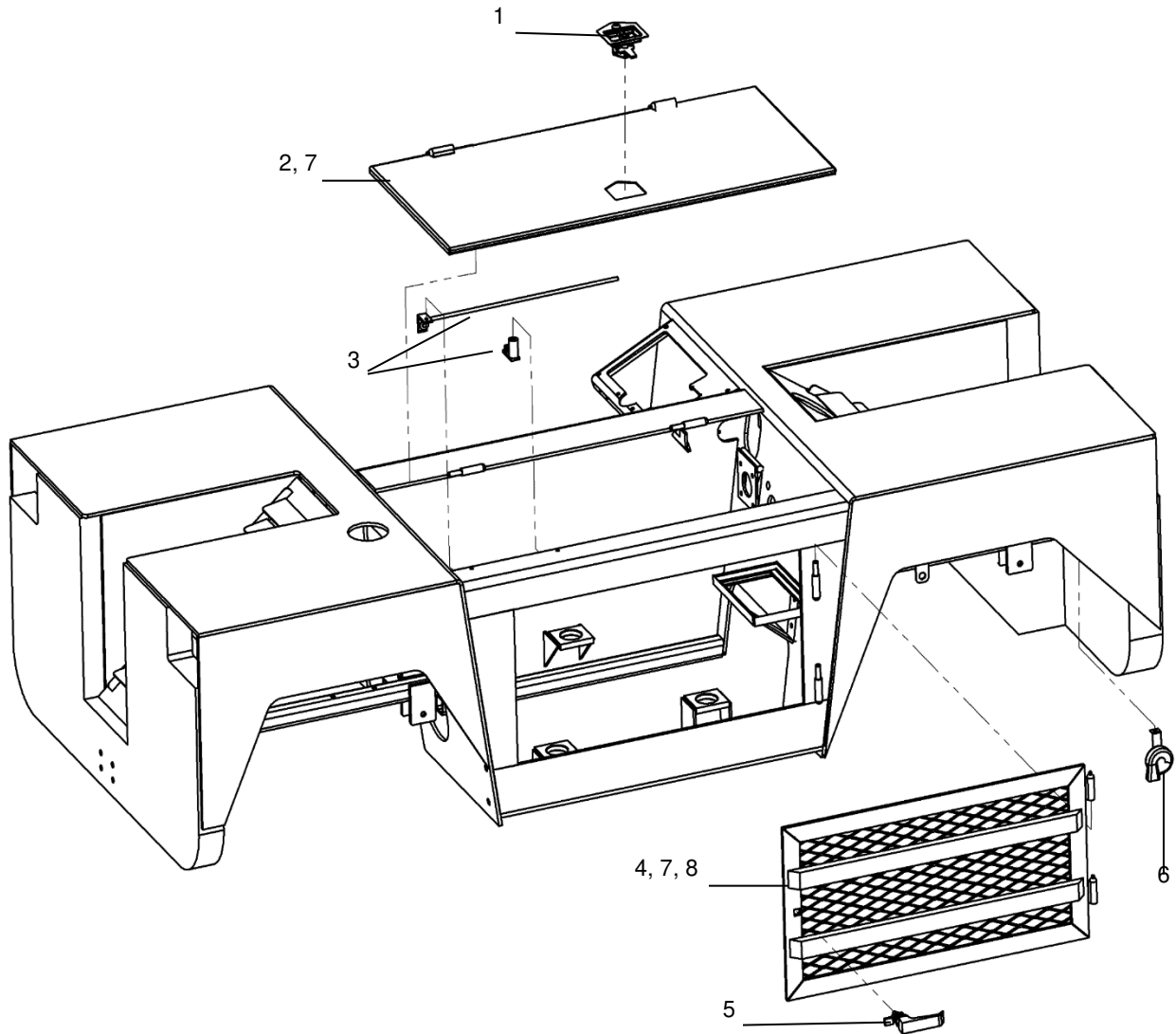


**Parts List**

When ordering replacement parts/kits, please specify model and serial number your unit.

Item	Part Number	Description	Qty
1	A-RTT12E-00287	TAIL LIGHT GROMMET	2
2	NVSP-34-010-CA	OVAL COMBINATION LIGHT, S-T-T-BU	2

21.0 OTHER ASSEMBLIES  
21.1 BODY ASSEMBLY

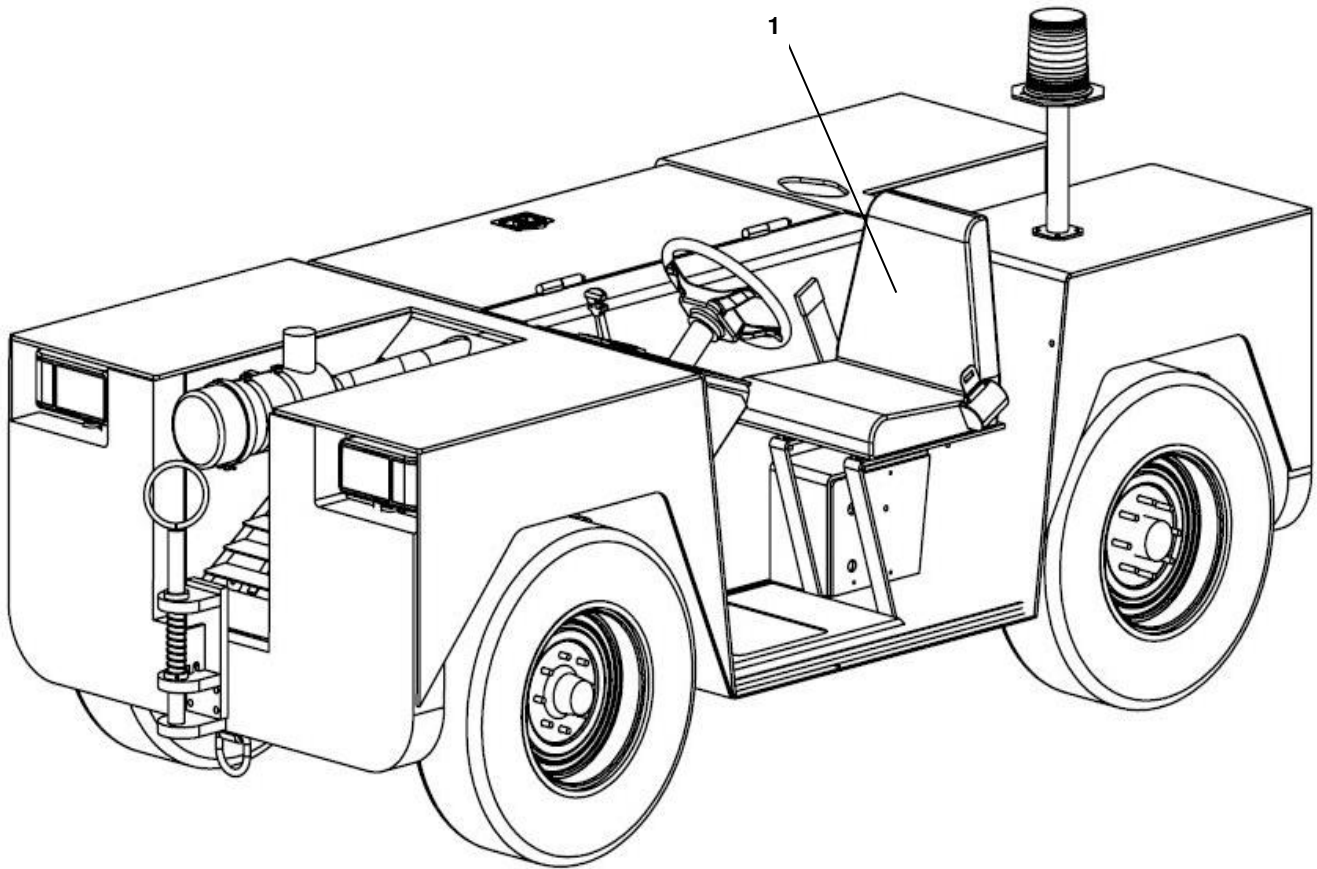


**Parts List**

When ordering replacement parts/kits, please specify model and serial number your unit.

Item	Part Number	Description	Qty
1	C-TT4-0012-3	LOCKING T-HANDLE LATCH	1
2	C-TT4-0012	HOOD	1
3	NPN	HOOD PROP ASSEMBLY	1
4	D-TT4-0009-1	GRILL GUARD/ACCESS DOOR	1
5	62-10-603-20	LATCH FOR ACCESS DOOR	1
6	A-TT4-0052	HORN ASSEMBLY	1
7	338005-150	WELD-ON HINGE W/GREASE FITTING	4
8	H-1204-20	FOAM SEALING TAPE	AR

21.2 SEAT AND SEAT OPTIONS

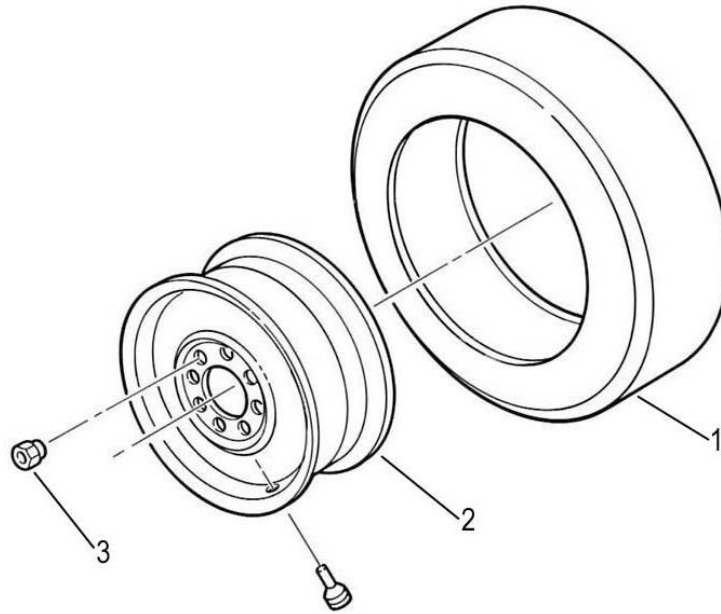


**Parts List**

When ordering replacement parts/kits, please specify model and serial number your unit.

Item	Part Number	Description	Qty
1	A-TT4-0048-1	STANDARD SEAT	1
3	AE-OPT-0090	STANDARD SEAT W/ KILL SWITCH(OPTION)	1
3	A-TT10-00048	BENCH SEAT (DUAL REAR WHEEL MODELS)	1
4	AE-OPT-0055-B	BENCH SEAT BOTTOM CUSHION	1
5	AE-OPT-0055-C	BENCH SEAT BACK CUSHION	1
6	AE-OPT-0183	BENCH SEAT W/ KILL SWITCH (OPTION)	1
7	E1000	SEAT BELT	1

**22.0 WHEELS & TIRES**  
22.1 WHEEL & TIRE ASSEMBLY



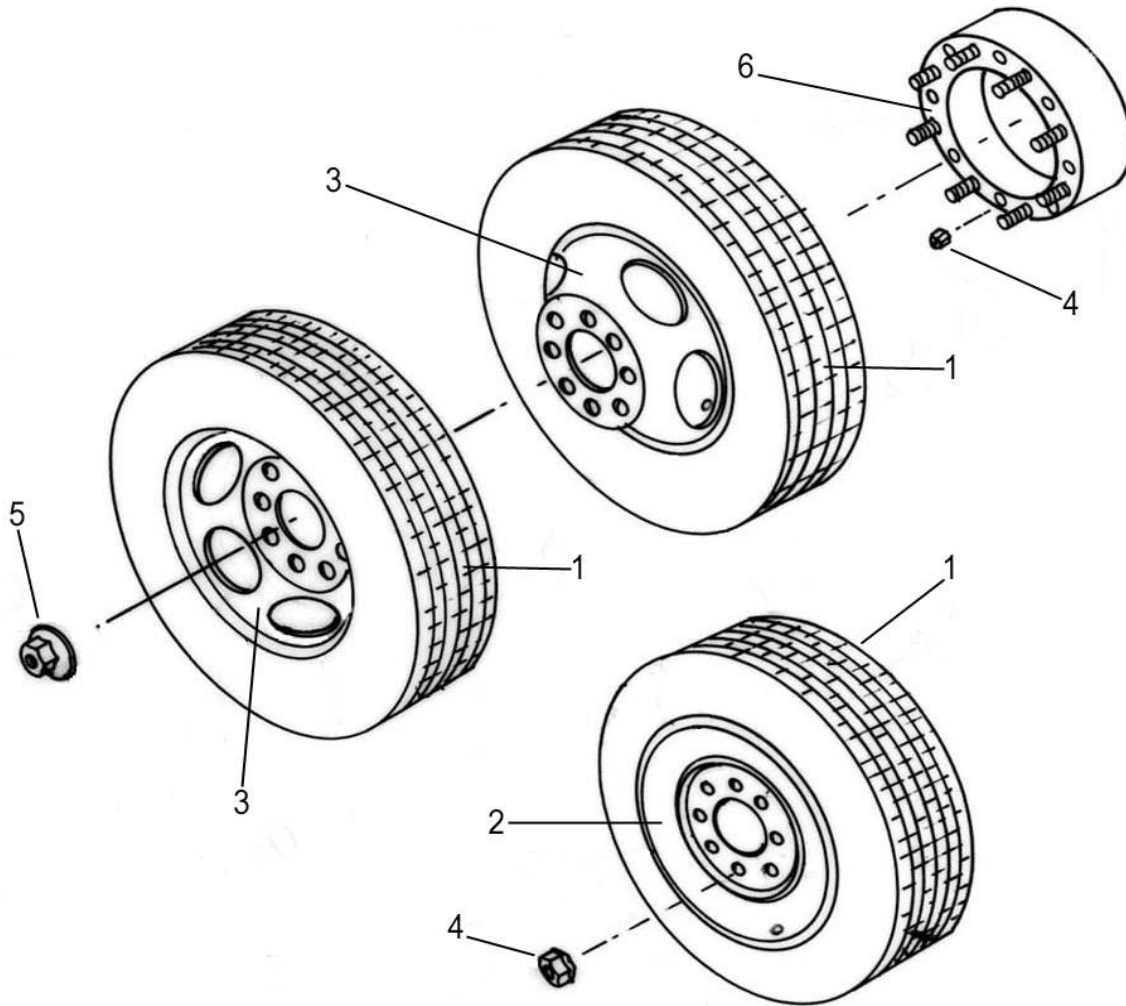
**Parts List**

When ordering replacement parts/kits, please specify model and serial number your unit.

Item	Part Number	Description	Qty
<b>TIRE OPTIONS</b>			
1	A-TT4-00121	TIRE, 8.00X16.5, LOAD RANGE E	4
	A-SATS-00121	TIRE, 8.75X16.5, LOAD RANGE E	4
	A-TT8/2-00121-1	TIRE, LT225/75R16, LOAD RANGE E	4
	A-TT8-00121	TIRE, LT225/75R16, LOAD RANGE E, MUD AND SNOW	4
<b>WHEEL OPTIONS (must match to tire mounting diameter)</b>			
2	A-TT4-00122	RIM, 16.5X6.75, BC 8-6.5 - *DISCONTINUED	4
	A-TT4-00122-1	RIM, 16X6, BC 8-6.5	4
Select the appropriate tire/wheel to match your tractor (refer to the sidewall text on your current tires). Any new tire or wheel must match what is already equipped on the tractor. DO NOT mix and match tire sizes. All four tires must be the same size			
3	A-TT4-00123	LUG NUT	32
-	610286	WHEEL STUD FRONT DANA 44	8
-	610348	WHEEL STUD REAR DANA 60	8
-	A-TT4-00124	VALVE STEM	4

\*If a truck originally equipped with the 16.5" wheel and tire package requires a replacement wheel, all four wheels and tires will need to be replaced with the 16" wheel and tire packages listed above.

22.2 WHEEL & TIRE ASSEMBLY—DUAL REAR WHEEL MODELS

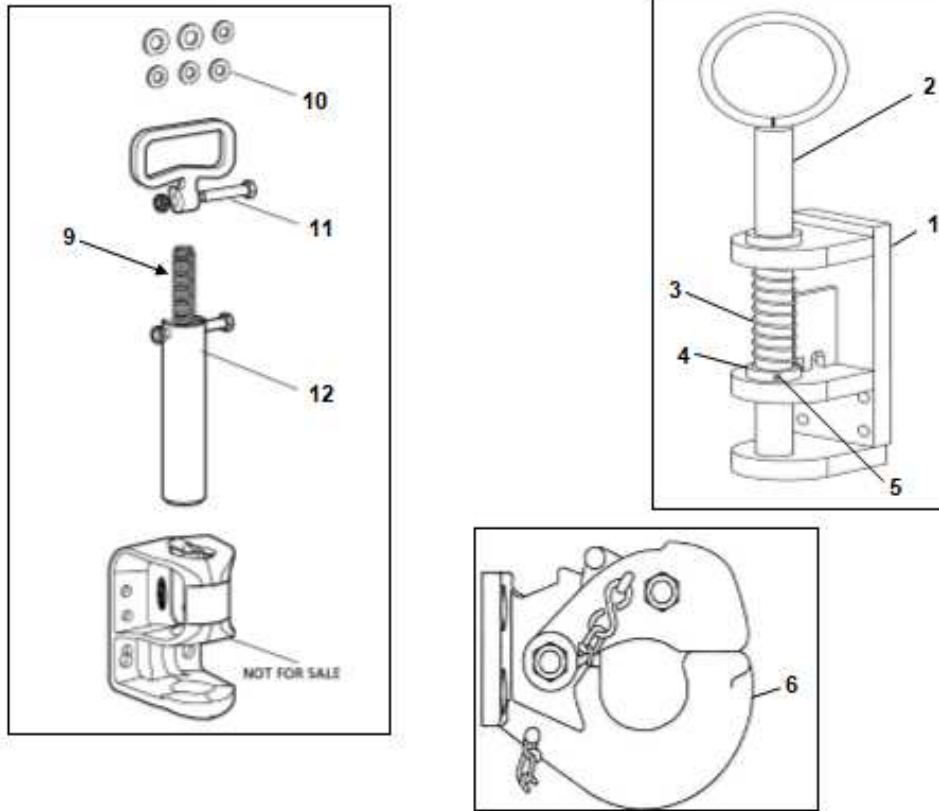


**Parts List**

When ordering replacement parts/kits, please specify model and serial number your unit.

Item	Part Number	Description	Qty
1	A-TT8/2-00121-1	TIRE, LT225/75R16, LOAD RANGE E	6
2	A-TT4-00122-1	RIM, 16X6, BC 8-6.5 (FRONT AXLE)	2
3	A-TT8/2-00126	RIM, 16X6, BC 8-6.5 (REAR AXLE)	4
4	A-TT4-00123	LUG NUT	32
5	A-TT8/2-00129	WHEEL ADAPTER LUG NUT	16
6	A-TT8/2-00127	WHEEL ADAPTER	2

**23.0 OPTIONS**  
**23.1 HITCH OPTIONS**



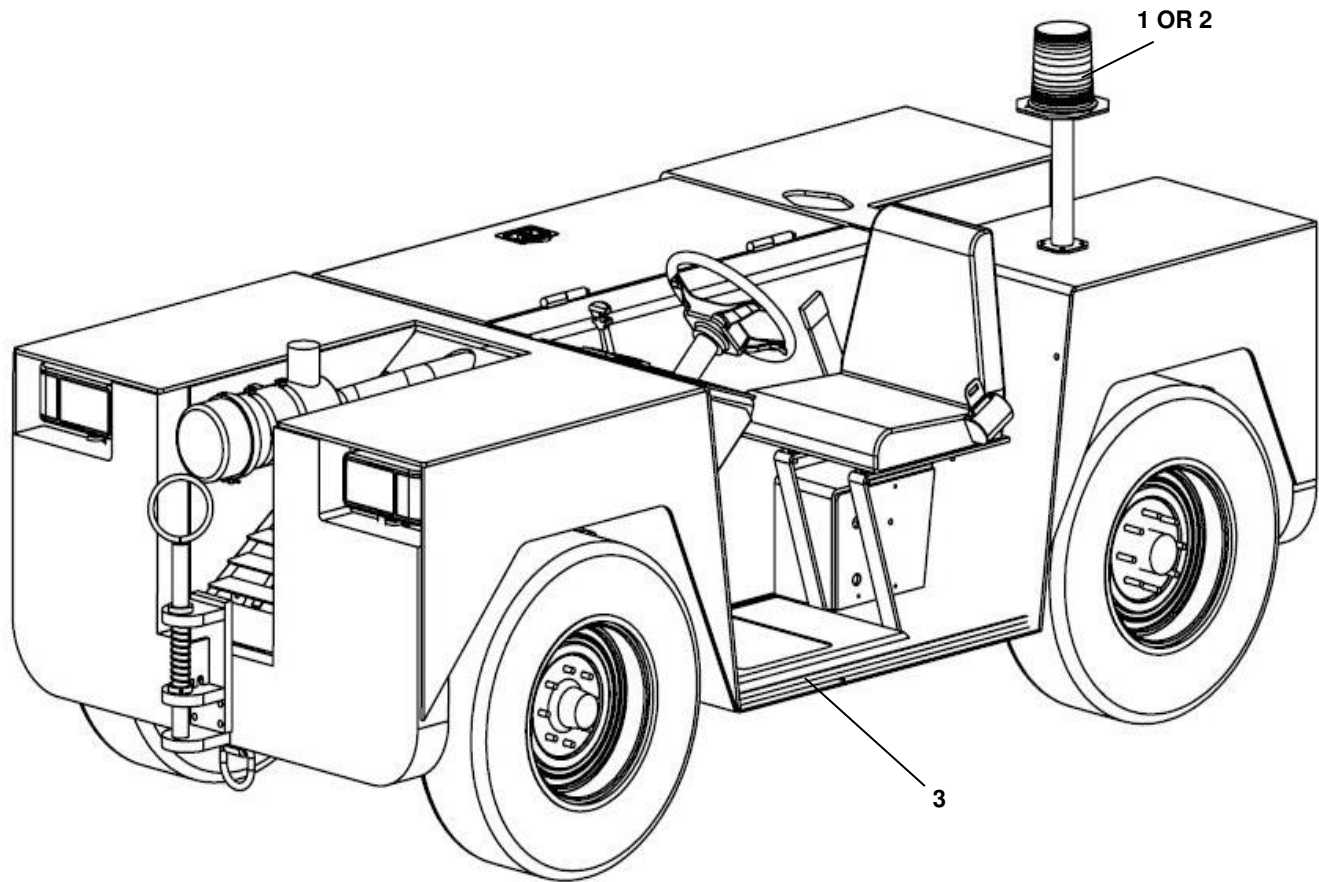
**Parts List**

When ordering replacement parts/kits, please specify model and serial number your unit.

Item	Part Number	Description	Qty
1	AE-OPT-0033	E-HITCH 1 1/2 " PIN-COMPLETE ASSEMBLY	1
2	B-TT3-0008 DET2	E-HITCH GUIDE 1 1/2" GUIDE PIN WITH RING	1
3	B-TT3-0008A	E-HITCH SPRING	1
4	B-TT3-0008 DET5	LOCKING COLLAR	1
5	B-TT3-0008B	ROLL PIN	1
6	AE-OPT-0028	PINTLE HOOK	1
7	AE-OPT-0026	AIRLINE HITCH 3" PIN WITH CABLE (NOT SHOWN)	1
8	AE-OPT-0093	AIRLINE HITCH 2 3/8" PIN (NOT SHOWN)	1
9	AE-OPT-0033-1	HOLLAND HITCH	1
10	RK-11438	WASHER SET HOLLAND HITCH	1
11	RK-11440	HANDLE KIT HOLLAND HITCH	1
12	RK-11439	PIN & SPRING KIT HOLLAND HITCH	1

\* The above are standard hitch options. Please call for special hitch options information

23.2 STROBE, BEACON & FLOOR MAT OPTIONS

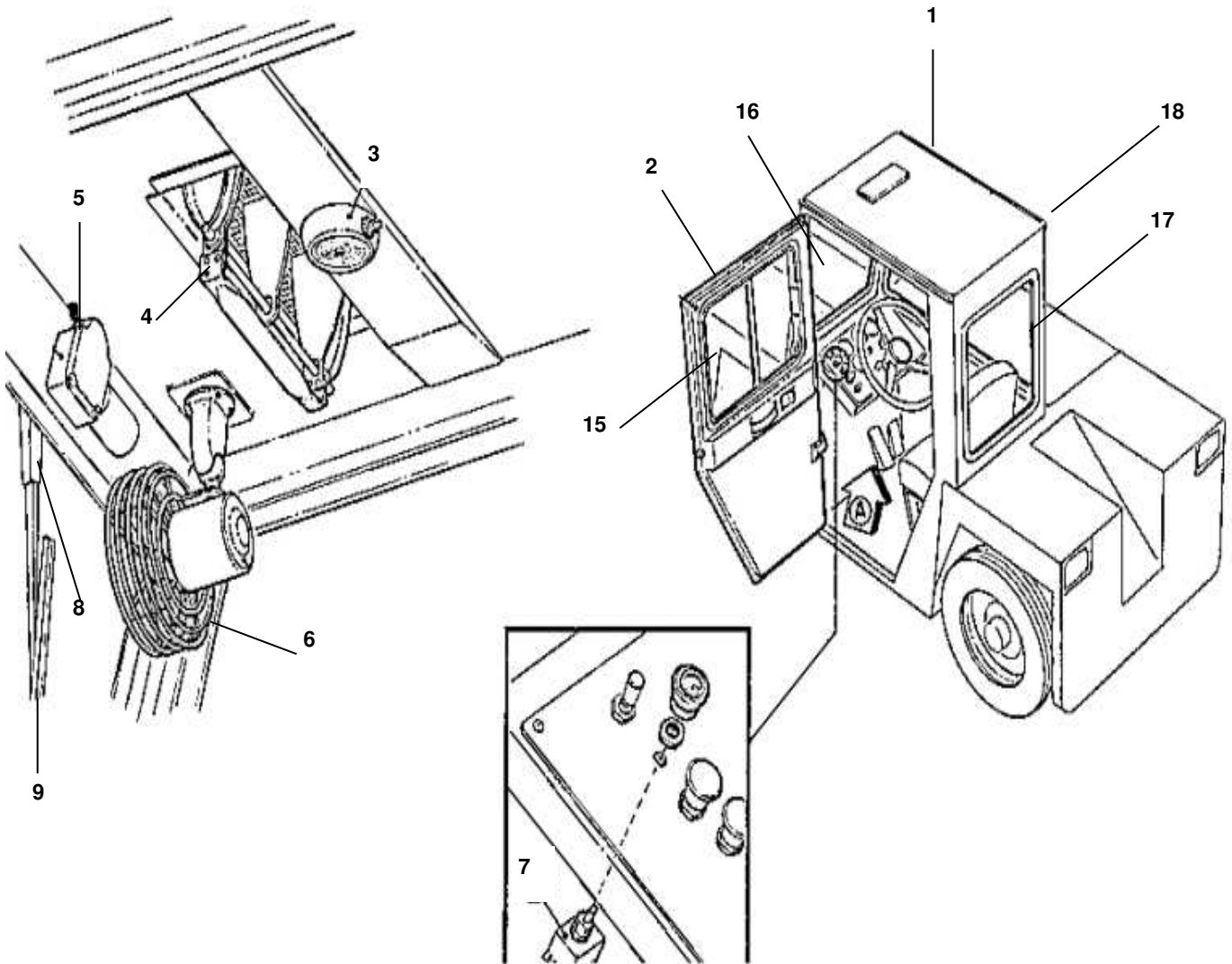


**Parts List**

When ordering replacement parts/kits, please specify model and serial number your unit.

Item	Part Number	Description	Qty
1	AE-OPT-0002	AMBER ROTATING BEACON	1
1A	R5024BH	REPLACEMENT BULB 24VDC	1
1B	R5012BH	REPLACEMENT BULB 12VDC	1
2	AE-OPT-0007	STROBE	1
2A	129	REPLACEMENT BULB FOR STROBE	1
2B	AE-OPT-0009	1/2 COVER FOR STROBE	1
3	A-TT4-00450	BASIC FLOOR MAT (NO SENSOR)	1
3A	A-TT4-00450-1	OPERATOR SWITCH MAT (WITH SENSOR)	1
3B	A-TT10-00451	SWITCHMAT DELAY TIMER NOT SHOWN-LOCATED UNDER DASH	1

23.3 CAB OPTION





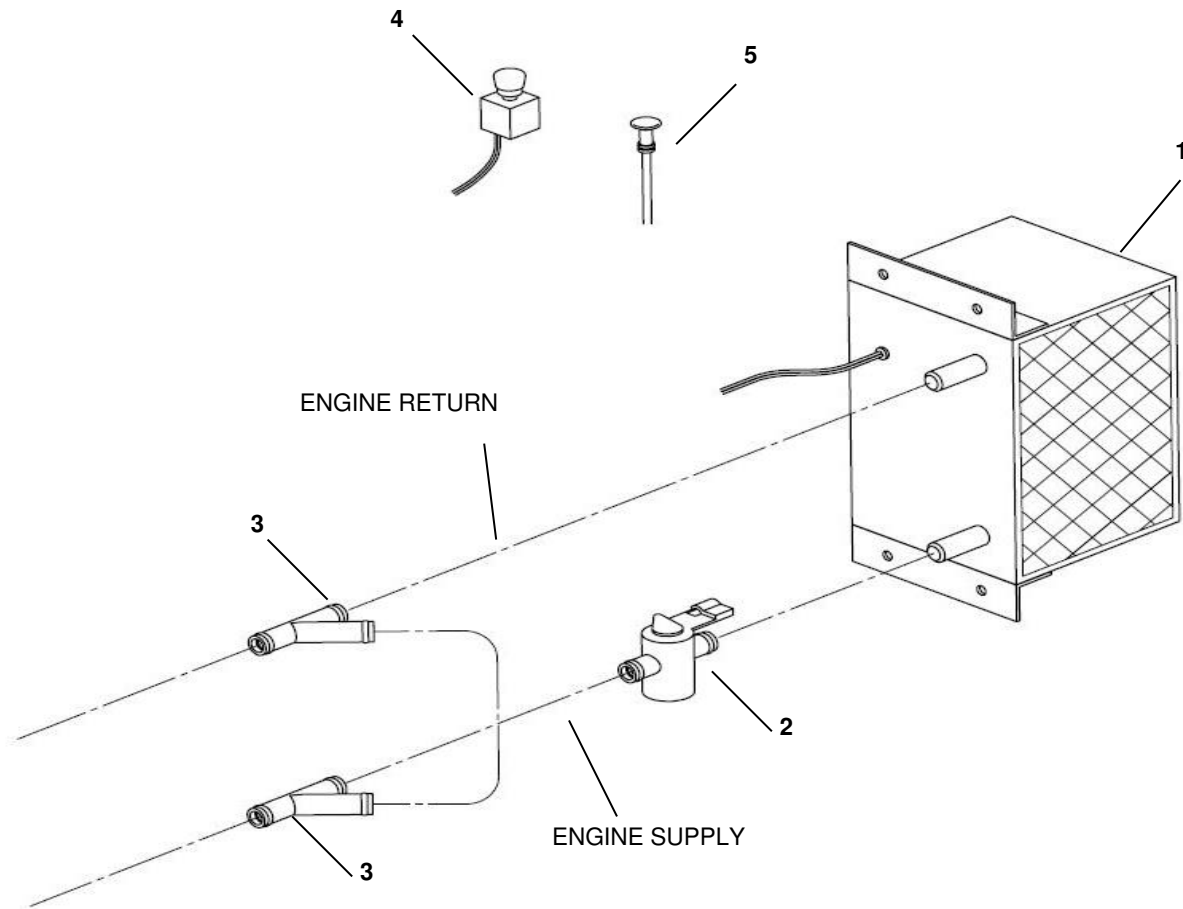
23.3 CAB OPTION

**Parts List**

When ordering replacement parts/kits, please specify model and serial number your unit.

Item	Part Number	Description	Qty
1	AE-OPT-0004	CAB ASSEMBLY COMPLETE	1
	AE-OPT-0003	CAB ASSEMBLY COMPLETE (DUAL REAR WHEEL MODEL)	1
2	40502	DOOR ASSEMBLY COMPLETE	1
3	A-TT4-00553	DOME LITE	1
4	A-TT4-00554	ROOF VENT	1
5	A-TT4-00555	WIPER MOTOR	1
6	A-TT4-00556	DEFROST FAN	1
7	A-TT4-00609	HEATER FAN SWITCH	1
8	991013	WIPER ARM	1
9	990994	WIPER BLADE	1
10	40516	DOOR HINGE (NOT SHOWN)	3
11	40515	STRIKER PLATE (NOT SHOWN)	1
12	48717	OUTSIDE DOOR HANDLE (NOT SHOWN)	1
13	990237	INSIDE DOOR HANDLE (NOT SHOWN)	1
14	991529	DOOR STRAP(NS)	2
15	992518	DOOR WINDOW	1
16	992424	WINDSHEILD	1
	992520	WINDSHEILD (DUAL REAR WHEEL MODEL)	1
17	991867	REAR WINDOW	1
	992521	REAR WINDOW (DUAL REAR WHEEL MODEL)	1
18	991809	SLIDING WINDOW	1
19	992519	FRONT QUARTER WINDOW	1
20	T1003	DOME LITE LIGHT BULB (NOT SHOWN)	1

23.4 CAB HEATER



**Parts List**

When ordering replacement parts/kits, please specify model and serial number your unit.

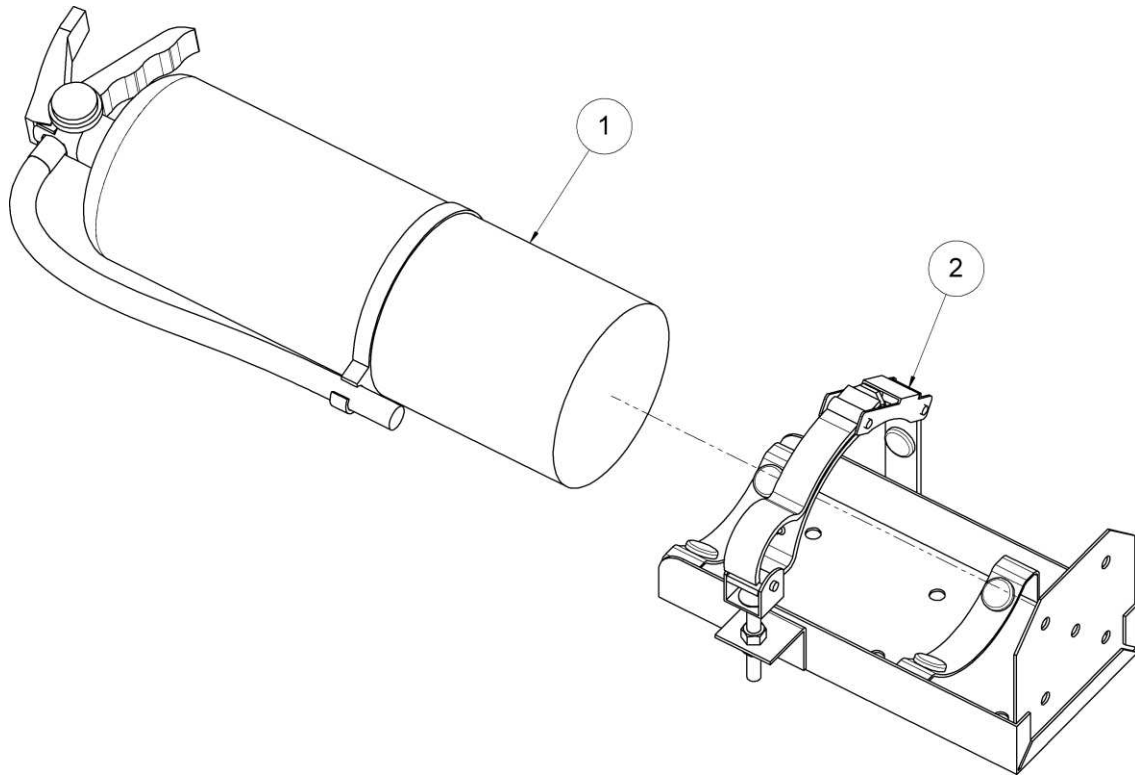
Item	Part Number	Description	Qty
1	A-TT4-00601	HEATER ASSEMBLY	1
2	A-TT4-00607D	CONTROL VALVE	1
3	02220200A	Y CONNECTOR	2
4	A-TT4-00609	HEATER FAN SWITCH	1
5	A-TT4-00608	TEMPERATURE CONTROL CABLE	1
6	NPN	5/8 HEATER HOSE (NOT SHOWN)	2

23.5 FIRE EXTINGUISHER 10 LB ABC

This option places a 10 lbs. capacity ABC fire extinguisher on the tractor. The standard position varies by tractor, and alternative customer-driven positions are acceptable. The option includes the mounting bracket.

Special Notes:

- See following pages for standard mounting locations.
- Fire extinguishers cannot be shipped separately from a tractor due to hazardous material shipping regulations.

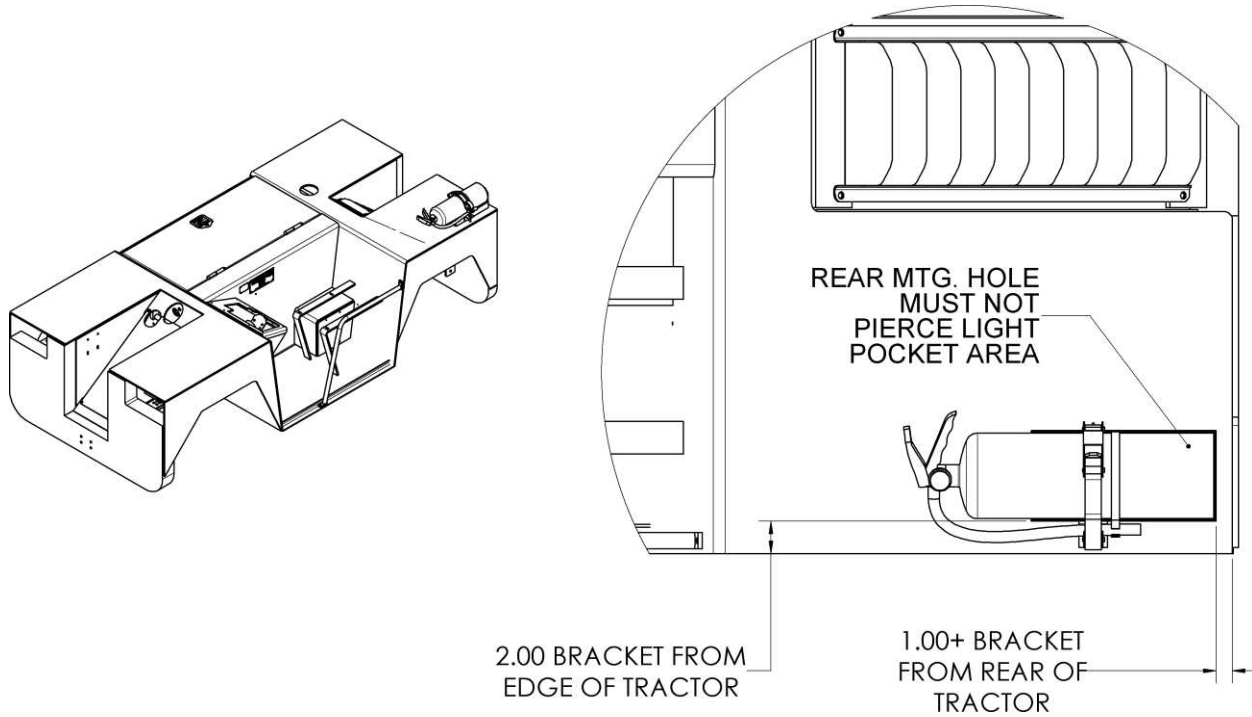


**Parts List**

When ordering replacement parts/kits, please specify model and serial number your unit.

Item	Part Number	Description	Qty
1	E-OPT-0080	FIRE EXTINGUISHER	1
2	E-OPT-0081	FIRE EXTINGUISHER BRACKET	1

23.5.1 Fire Extinguisher Installation



Notes:

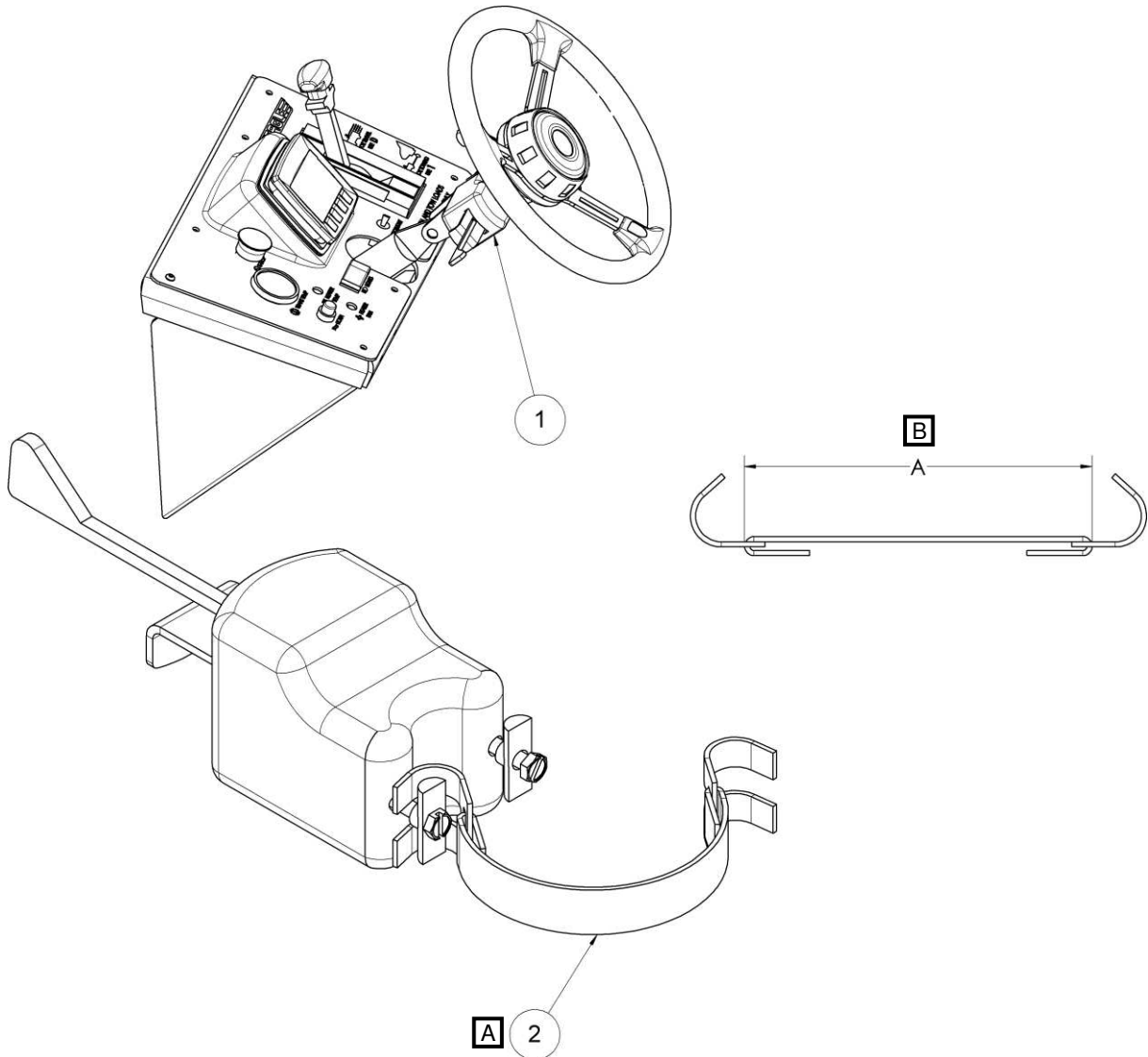
- A. Distance from rear panel will vary based on rear bumper thickness (ballast configuration)
- B. When tractor is equipped with an LPG fuel system, the fire extinguisher must be relocated to rear RH corner (same dimensions apply).

### 23.6 TURN SIGNALS

This option takes existing lights and adds a turn signal function.

**Special Notes:**

- Installation instructions show install of turn signal lever and also required wiring.
- Basic electrical knowledge and tools needed for install.
- Vehicle Electrical schematic in tractor manual is required.



**A** Item 2 is included with Item 1.

**B** Dimension A will be different depending on truck model. For TT4-8 use 4.5". For TT10-12 use 2.25". For USAT use 2.25"

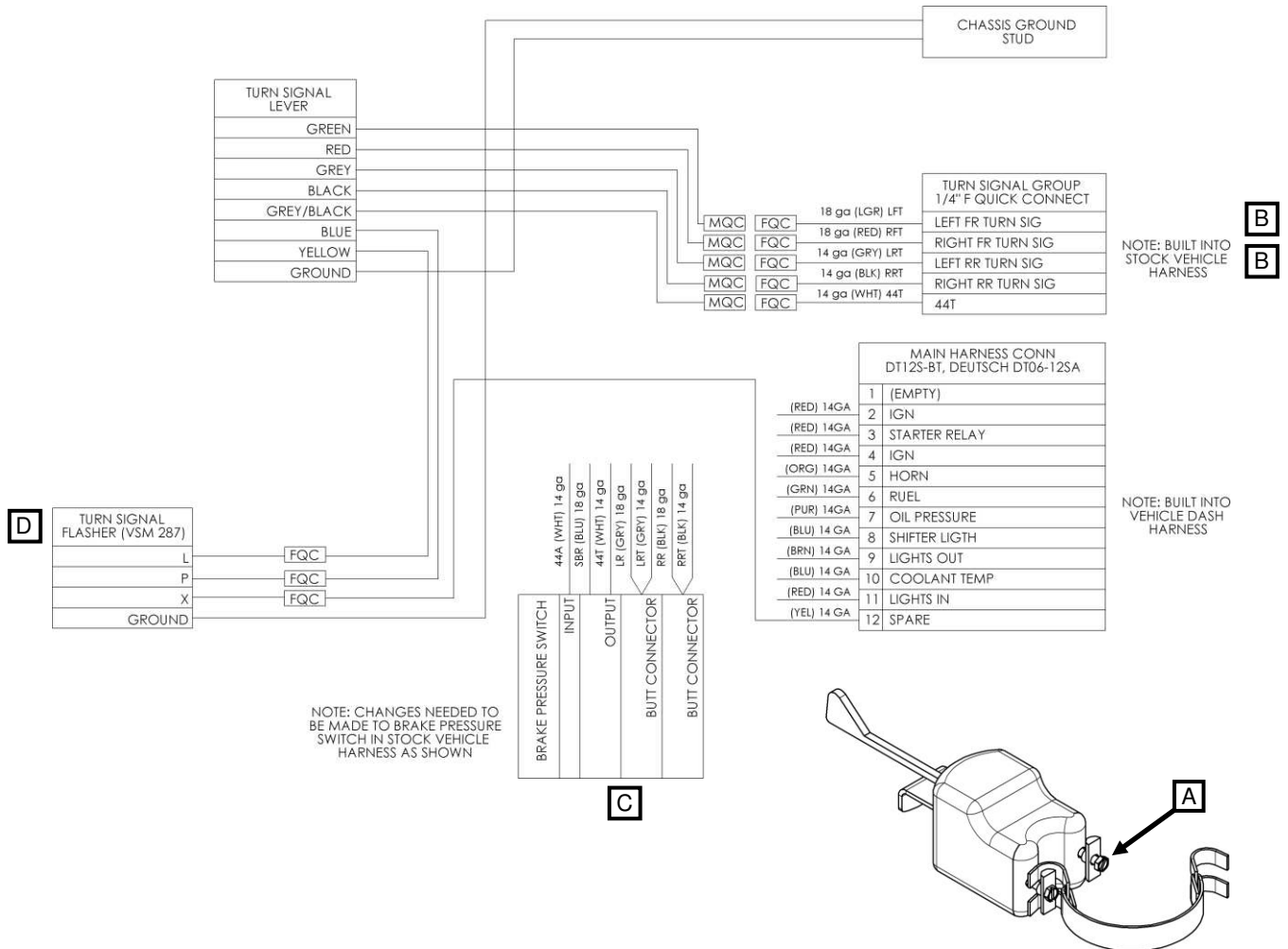
### Parts List

When ordering replacement parts/kits, please specify model and serial number your unit.

Item	Part Number	Description	Qty
1	AE-OPT-0160	TURN SIGNAL SWITCH STR COLUMN	1
2	NPN	TURN SIGNAL SWITCH MOUNTING STRAP	1
3	VSM 287	TURN SIGNAL FLASHER	1

23.6 TURN SIGNALS (continued)

Electrical schematic shown shows wiring instructions and changes that need to be made to existing electrical.



- A** A ground needs to be added to turn signal lever. Ground should be attached to turn signal switch mounting screw with ring terminal. The ground then attaches to the ground stud on the chassis under the dash on the tractor.
- B** Turn Signal Group and Main Harness Conn. are located under dash on the tractor.
- C** Brake Pressure Switch is located near Brake Master Cylinder. TT4-8 it is located on center bulk head. TT10-12 it is located behind front sight tunnel access panel. USAT it is located on the Brake Master Cylinder.
- D** Turn Signal Flasher is secured in with dash wiring when installed.

### 23.7 LUBRICITY DOSING SYSTEM

This option provides a diesel fuel lubricity dosing system. The system is intended to be used to add fuel lubricity to Jet A and JP-8 fuels when used in a tractor equipped with a Yanmar Tier2 engine. The system features a replaceable element that adds the lubricity chemicals to the fuel as the fuel flows through it. The element must be replaced at 250 hour intervals to maintain fuel lubricity.

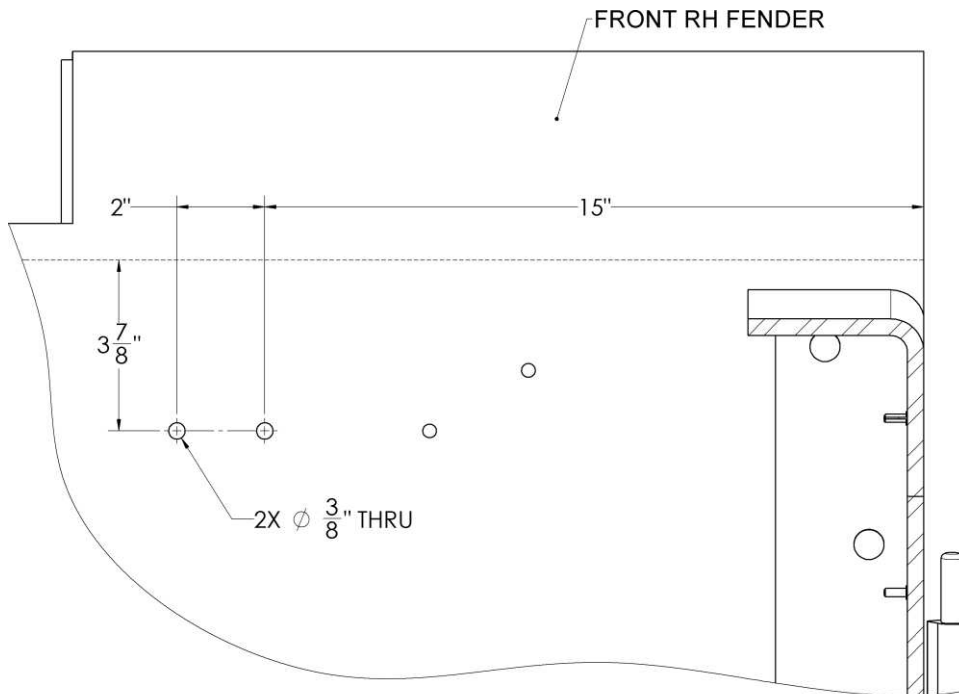
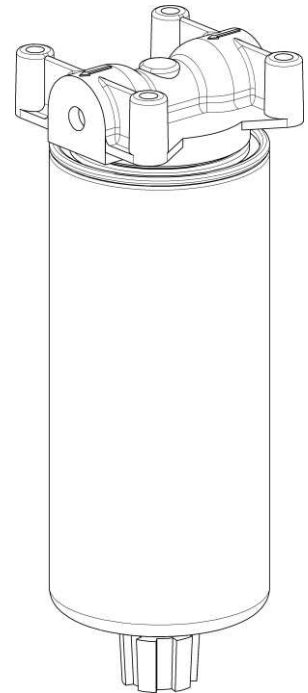
Valid for tractor types: TT-4 through TT-8 tractors equipped with a Tier2 Yanmar diesel engine

**Special Notes:**

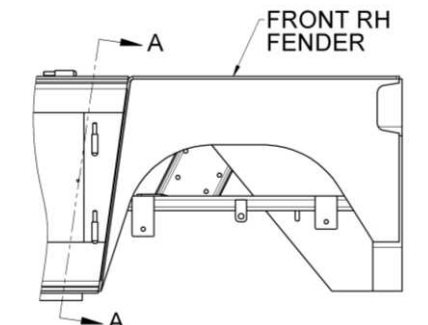
- Operating a Tier2 Yanmar engine on Jet A or JP-8 without added lubricity can result in fuel pump damage over time.
- The dosing chemical is not compatible with the Yanmar Tier4i engine. DO NOT install on a Tier4i engine equipped tractor.

**Front Panel Holes**

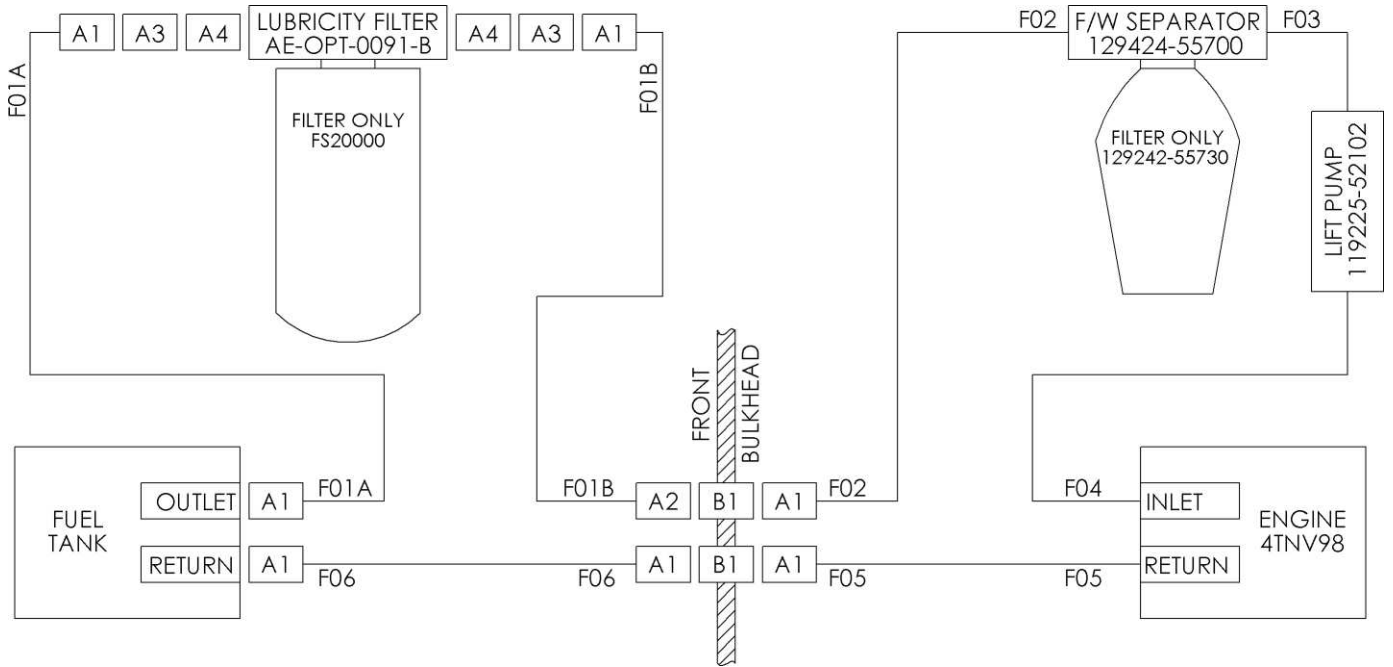
- The mounting holes in the front panel will be pre-existing if the tractor was built after August 2013. For earlier tractors drill two 3/8" diameter holes in the front panel per the below diagram.



SECTION A-A  
SCALE 1 : 2



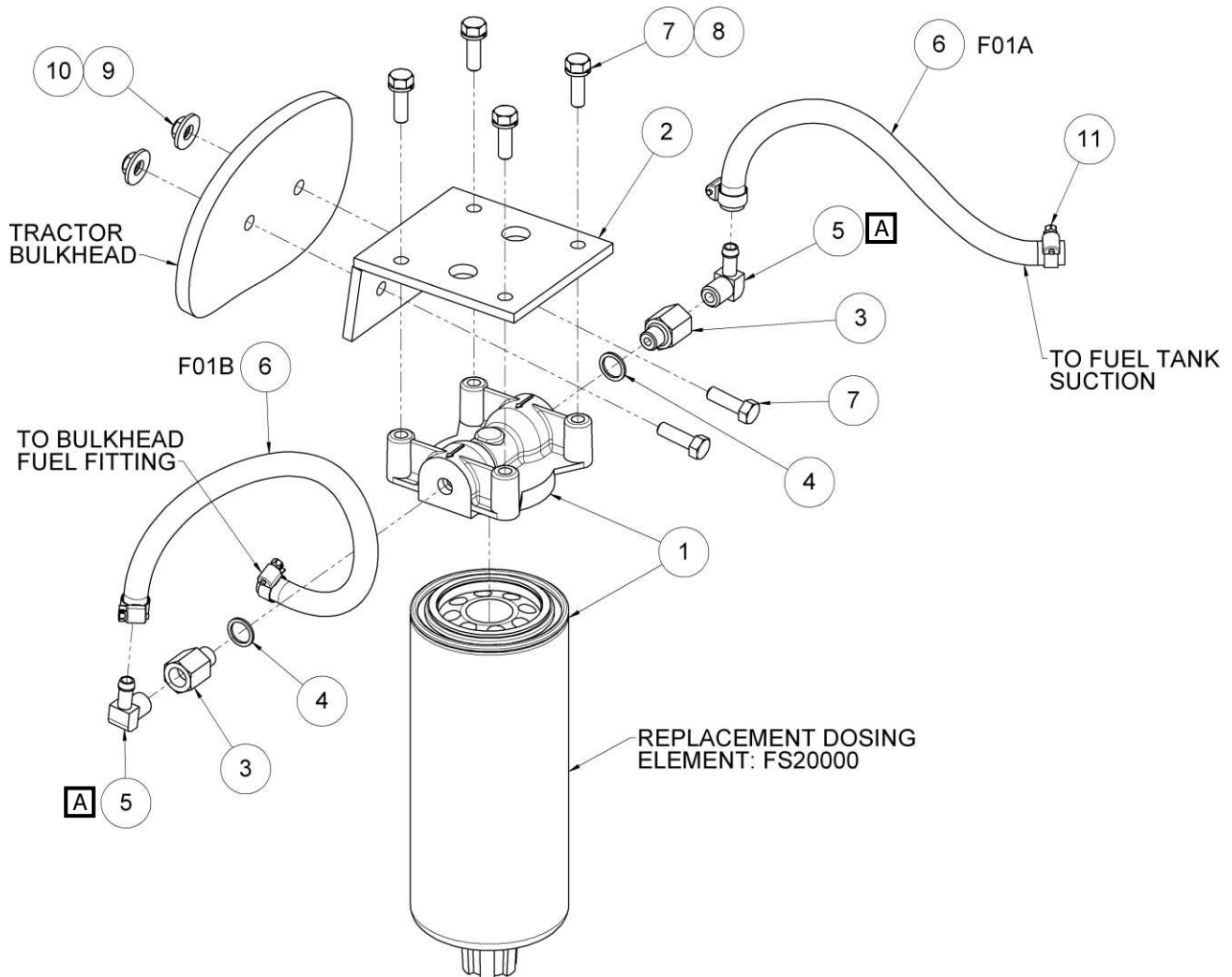
23.7 LUBRICITY DOSING SYSTEM (continued)  
Fuel Line Schematic with Lubricity Dosing System



FITTING LIST			
Item	Part Description	Part Number	Qty.
A1	ADAPTOR, 1/4 NPT M - .313 BARB	05705B-C04	7
A2	ADAPTOR, 1/4 NPT M - .375 BARB	05706B-104	1
A3	ADAPTOR, M12X1.5 M - 1/4 NPT F	222P-4-M112	2
A4	RETAINING RING, M12	M7630X12	2
B1	BULKHEAD FITTING, 1/4 NPT F	A-TT4-00280	2

HOSE LIST		
Item	Part Number	Qty.
F01A	H05705	12
F01B	H05705	20
F02	H05705	21.5
F03	H05705	15
F04	H05705	20
F05	H05705	48
F06	H05705	17

23.7 LUBRICITY DOSING SYSTEM (continued)



**A** Install specified components using Loctite® 565™ Pipe Sealant or comparable.

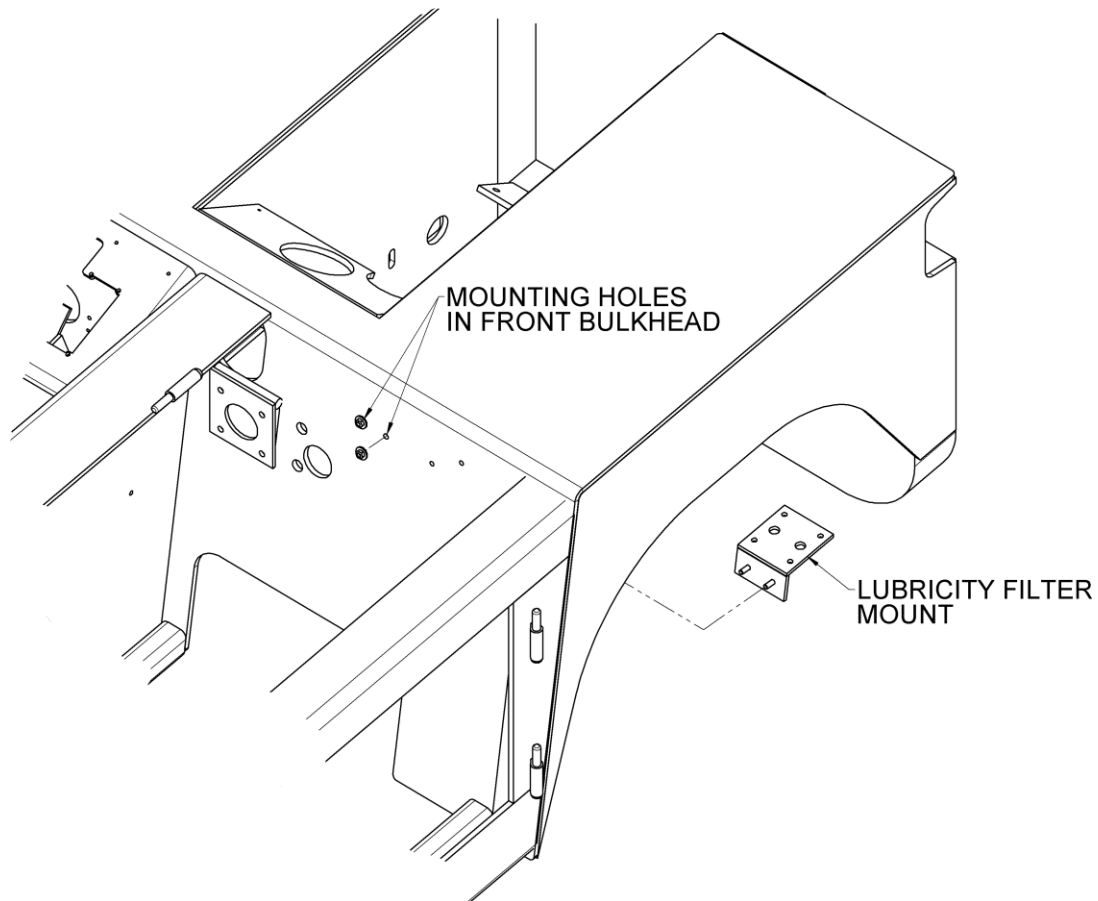
### Parts List

When ordering replacement parts/kits, please specify model and serial number your unit.

Item	Part Number	Description	Qty
1	AE-OPT-0091-B	LUBRICITY FUEL FILTER-DOSER (HEAD AND FILTER)	1
2	AE-OPT-0091-C	LUBRICITY FILTER MOUNT, YANMAR TT4-8	1
3	222P-4-M112	ADAPTOR - M12X1.5 M - 1/4 NPT F	2
4	M7630X12	RETAINING RING - M12	2
5	05705B-C04	ELBOW - 1/4 NPT M - 5/16 HOSE BARB	2
6	H05705	5/16 FUEL HOSE	5
7	NPN	HCS, 5/16-18 UNC X 1	6
8	NPN	LOCK WASHER, 5/16	4
9	NPN	FLAT WASHER, 5/16	2
10	NPN	LOCK NUT, 5/16-18 UNC	2
11	NPN	SAE #4 HOSE CLAMP	4

### 23.7.1 Lubricity Dosing System Installation

1. Raise up the front of the tractor and secure it with jack stands.
2. Remove the front RH wheel and tire assembly.
3. Remove the fuel suction line between the bulkhead fitting and the fuel tank. Note that the continuation of this line inside the engine compartment is routed to the fuel/water separator. Discard the removed fuel line.
4. Mount the item 3, the AE-OPT-0091-C, LUBRICITY FILTER MOUNT to the tractor bulkhead as shown below.
5. Assemble the hose fittings, items 3, 4, and 5 to item 1, the AE-OPT-0091-B, LUBRICITY FUEL FILTER-DOSER (HEAD AND FILTER). Orient the barb fittings vertically away from the dosing filter element.
6. Mount the dosing assembly to the filter mount. Orient the filter so that the flow direction arrows embossed on the top of the filter point towards the RH side of the tractor.
7. Cut a 12" long piece of the provided 5/16" fuel hose. Connect it between the LH side of the filter head (inlet) and the barb fitting on the fuel tank you removed the suction line from earlier. Secure the fuel line with two SAE hose clamps.
8. Cut a 20" long piece of the provided 5/16" fuel hose. Connect it between the RH side of the filter head (outlet) and the barb fitting on the front tractor bulkhead you removed the suction line from earlier. Secure the fuel line with two SAE hose clamps.
9. Start the tractor and verify there are no leaks in the added fuel hose.
10. Lower the tractor from the jack stands.



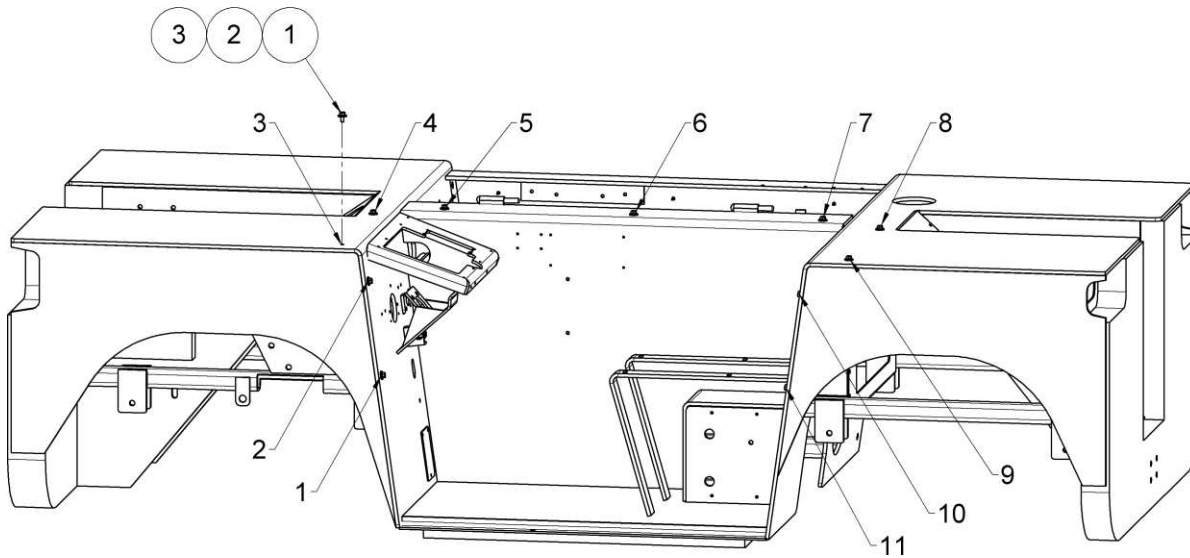
23.8 CAB PREP FOR FIELD INSTALL

This option adds (QTY 11) 5/16-18 UNC mounting holes to the TT chassis to support later installation of a standard cab unit. Prepping the chassis in this way eliminates a difficult field process of temporarily installing the cab to center punch/mark hole locations.

The chassis holes are drilled using a fixture to ensure alignment to the cab.

The holes are filled with hardware to provide a finished look and protect the threads.

Special Notes: This option can only be installed at the factory during new tractor production.



**Parts List**

When ordering replacement parts/kits, please specify model and serial number your unit.

Item	Part Number	Description	Qty
1	NPN	HCS, 5/16-18 UNC X 1	11
2	NPN	LOCK WASHER, 5/16	11
3	NPN	FLAT WASHER, 5/16	11

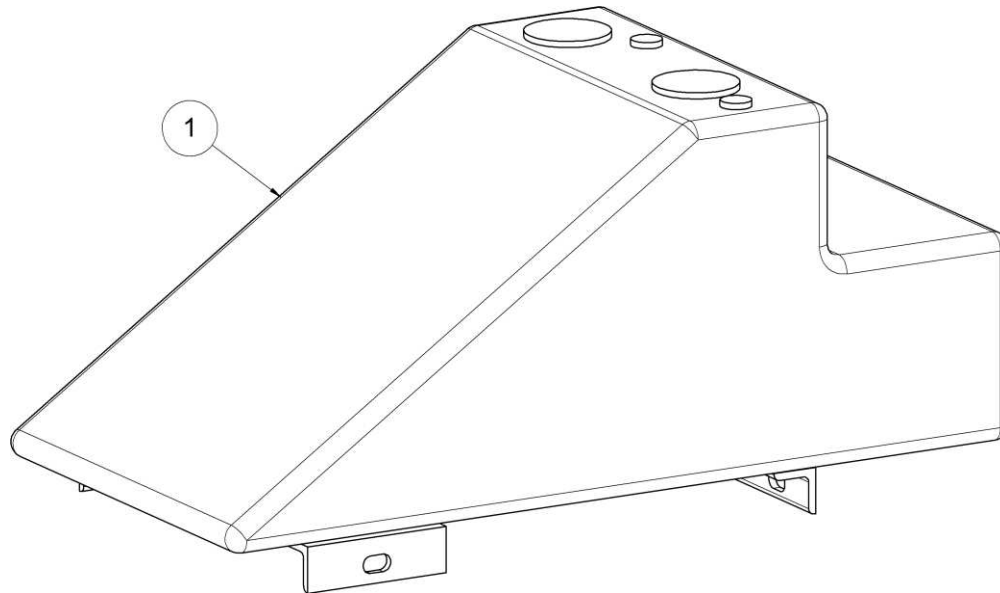
23.9 STAINLESS STEEL FUEL TANK

This option provides a stainless-steel fuel tank. This is a drop-in replacement for a standard Aluminized Steel Fuel Tank.

Valid for tractor types: TT4-8 with Yanmar 4T9V98 or Wiscon TME27 Gasoline Engine.

Installation Procedure: Same as standard fuel tank installation.

Special Notes: This fuel tank can be used to replace/upgrade units currently in the field with minor disassembly and reassembly.



**Parts List**

When ordering replacement parts/kits, please specify model and serial number your unit.

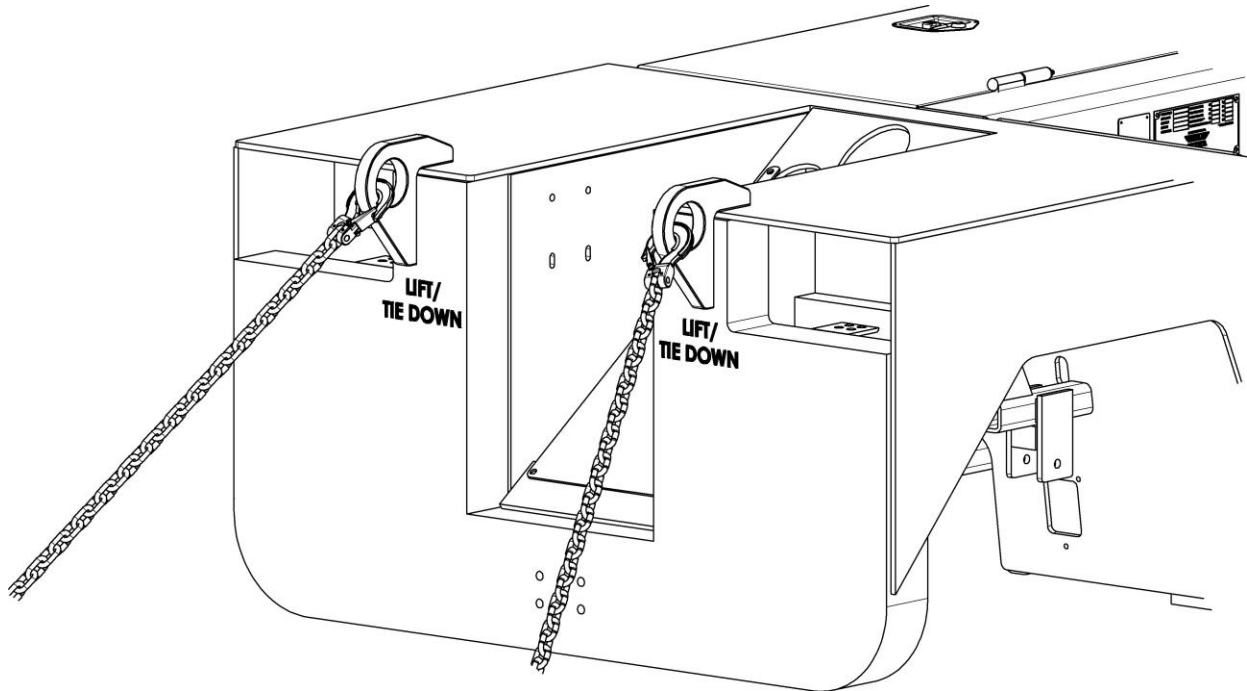
Item	Part Number	Description	Qty
1	OPT-TT08-001-A	STAINLESS STEEL FUEL TANK	1

23.10 LIFTING AND TIE DOWN PROVISIONS

This option provides new or retrofit installation of front and rear multipurpose lifting and tie down anchors that meet the MIL-STD-209K requirements. This includes air transportability compliance.

Valid for tractor types:

- TT-8 AWD tractor types
- This option is not compatible with the DUAL (wide rear end) option This option is not compatible with the Standard Heated Cab option
- This option is not compatible with any tractors not explicitly listed. Other tractors may be equipped with a similar option upon request



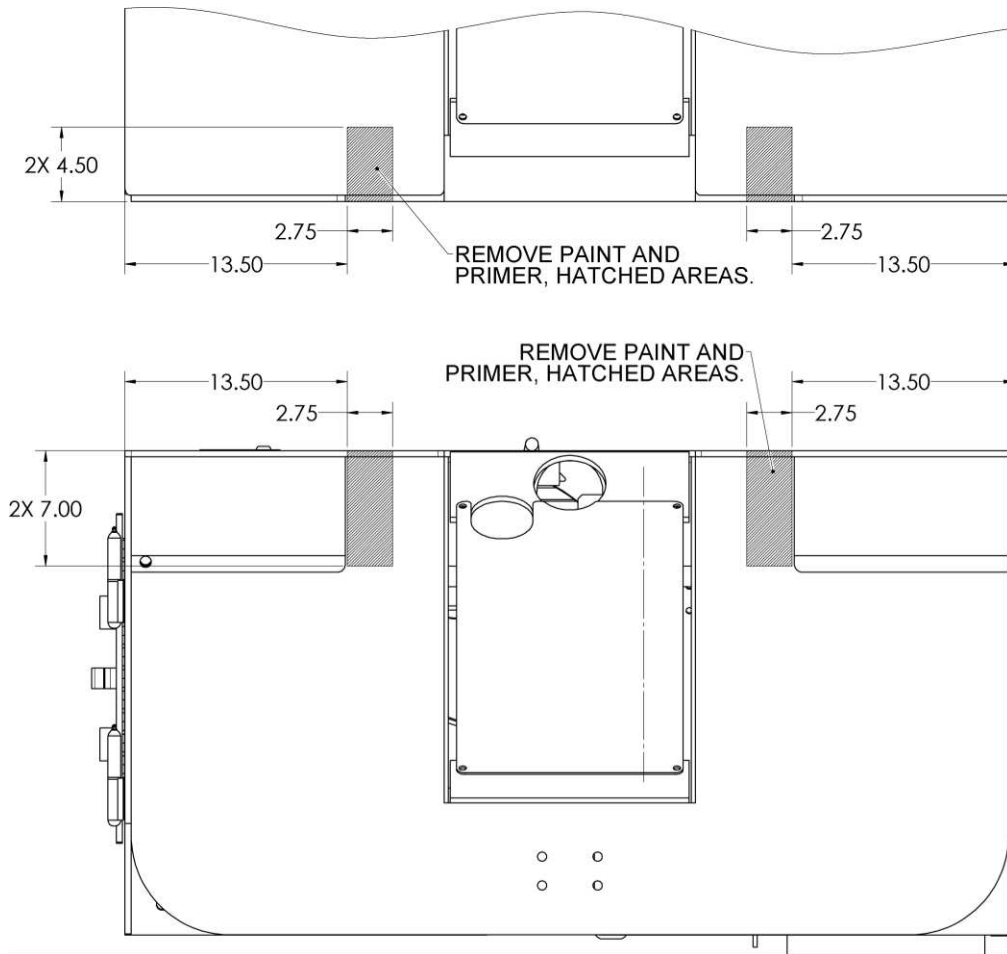
**Parts List**

When ordering replacement parts/kits, please specify model and serial number your unit.

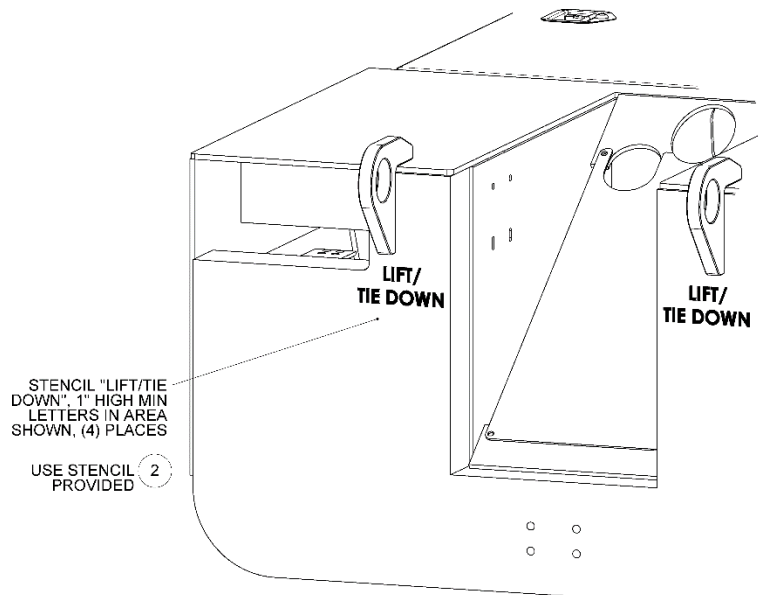
Item	Part Number	Description	Qty
1	TT08-01-045-SA	MIL-STD-209K TIE-DOWN AND LIFT PROVISION	4
2	TT08-14-004-SA	MULTIPURPOSE PROVISION STENCIL	4
3	TT08-14-005-SA	MIL-STD-209K CG PLACARD	1

23.10.1 Retrofit Installation

Mark the surface of the tractor per the drawing below. Mark both the front and rear end of the tractor. Remove all paint and primer from the hatched areas. Areas must be bare and clean steel.

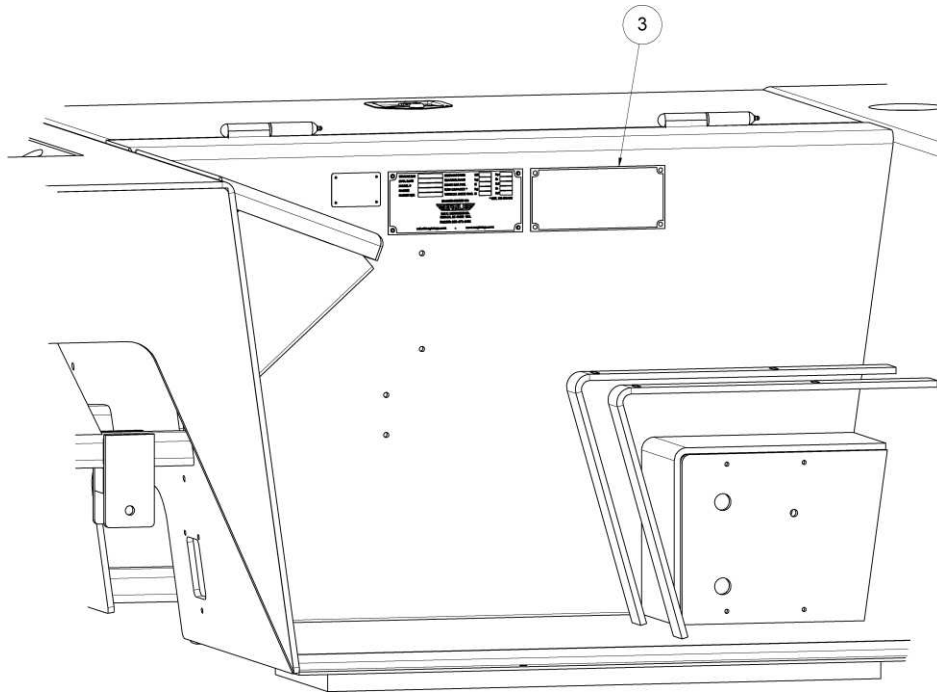


Re-paint all areas affected by the grinding and welding process (retrofit installation only). Paint "LIFT / TIE DOWN" using flattened black paint and the supplied templates per the below diagram



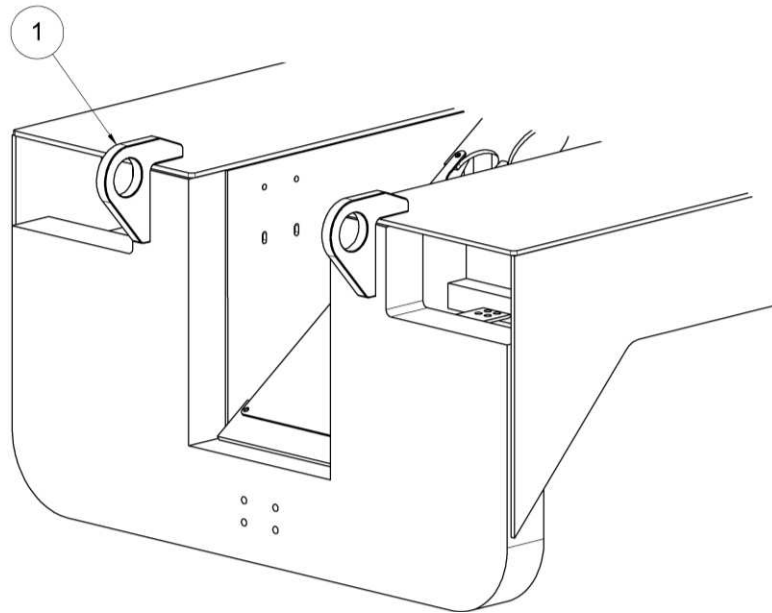
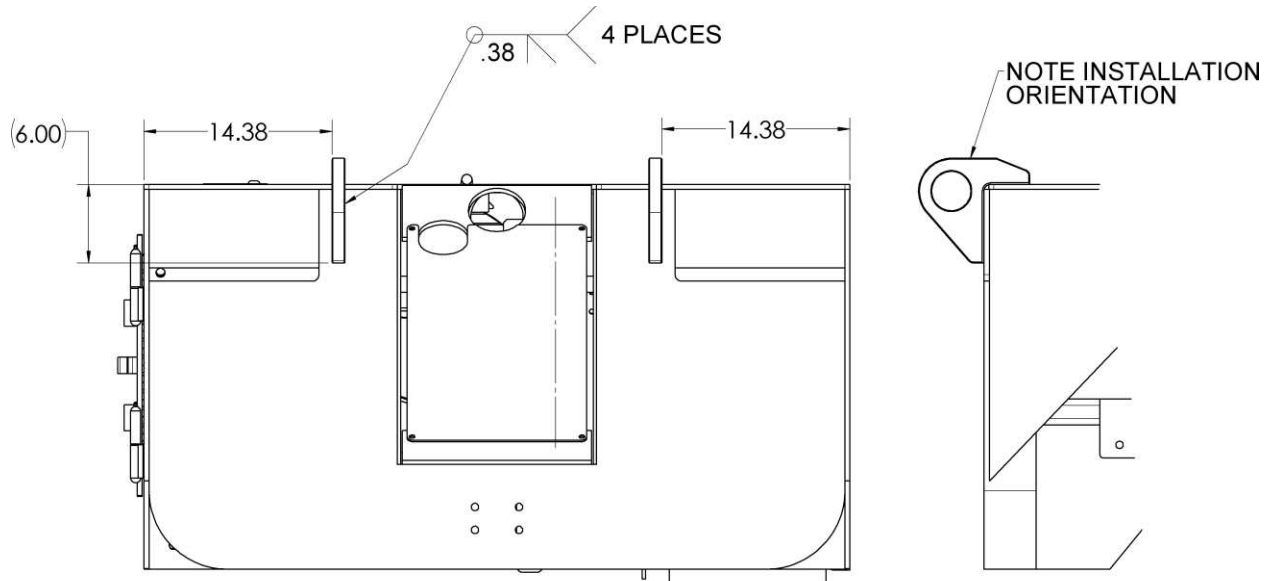
23.10.1 Retrofit Installation

Data Placard: Drill out existing transportability placard rivets, taking care not to damage any components in the engine compartment. Remove and discard existing placard (retrofit installation only). Install the appropriate transportability data placard with 3/16" aluminum rivets.



23.10.2 Multipurpose Installation

Weld the four provisions in place per the below dimensions. Welding must be in accordance with AWS D1.1



23.11 OTHER OPTIONS LISTED NOT SHOWN

**Parts List**

When ordering replacement parts/kits, please specify model and serial number your unit.

Item	Part Number	Description	Qty
1	AE-OPT-0001	BACK UP ALARM	1
2	AE-OPT-0086	INTERCOM JACK	1
3	AE-OPT-0094	12V ACCESSORY OUTLET	1

**24.0 IN SERVICE SUPPORT**

Contact Eagle Tugs. for technical services and information. See Section 1.3 – Manufacturer.

Customer Service      customerservice@eagletugs.com  
 Technical Support      support@eagletugs.com

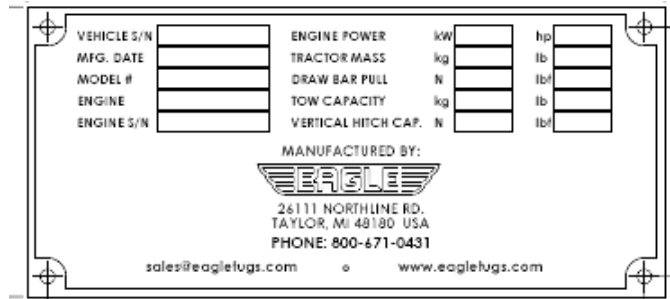
**24.1 TECHNICAL ASSISTANCE**

When addressing a repair procedure or operational problem, please remember that Eagle technical support is only a phone call away. Eagle technicians are available to assist you in vehicle diagnostics and recommended repair procedures. We encourage you to use this service to reduce machine down-time and to gain a better understanding of proper repair procedures.

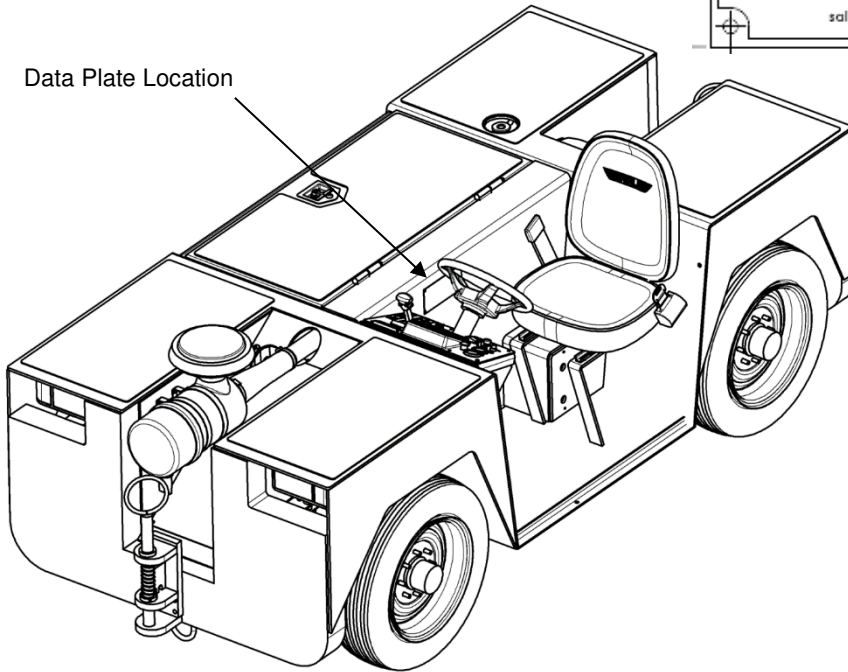
**25.0 GUARANTEES/LIMITATION OF LIABILITY**

**25.1 VEHICLE ID INFORMATION**

This information can be found on the tractor's I.D. Plate located on the firewall next to the driver's seat. Additionally, there is a permanent serial number located on the rear bulkhead inside the engine compartment.



Data Plate Location



When contacting Eagle Tugs for warranty or parts service, please have the following information ready:

- Tractor model number
- Tractor serial number
- Current hour reading



25.2 WARRANTY REGISTRATION INFORMATION

Please complete and return the Eagle Tugs Warranty Registration Card provided your tug or fill out and submit on line at [www.eagletugs.com](http://www.eagletugs.com).

25.3 YANMAR ENGINE WARRANTY REGISTRATION INFORMATION

The following pertains to warranty regarding the Yanmar engine only. For warranty issues not related to the engine in your tug please contact Eagle Tugs directly at 800-671-0431.

The Purchaser should register the Product as soon as possible after purchase. Registration may allow Yanmar to provide Product updates, Product improvements and other important information to the Purchaser. Registration will also make processing a future warranty claim more efficient and convenient for the Purchaser and Yanmar. A Purchaser should register the Product on-line by entering the required information into the Customer Registration screens found on Yanmar's website at <http://www.yanmar.co.jp>. To register product (click on the Customer Registration link. Go to Industrial Engines and then click on the Industrial Engine link. Enter the registration information in the necessary fields.

25.4 AUTHORIZED YANMAR MOTORS DISTRIBUTOR INFORMATION

The Yanmar Distributor Information can be found on the Yanmar website at [www.yanmar.com/industrial/dealerlocatormainmap.asp](http://www.yanmar.com/industrial/dealerlocatormainmap.asp). If you need help finding a distributor in your area please call Eagle Tugs at 800-671-0431.

25.5 TIRES

For tire warranty please contact Eagle directly

**Eagle Tugs**

1 Air Cargo Pkwy East  
Swanton, Ohio 43558 USA

Telephone: (419) 866-6301 or 800-426-6301

Fax: 419) 867-0634

E-mail: [parts@eagletugs.com](mailto:parts@eagletugs.com)

Website: [www.eagletugs.com](http://www.eagletugs.com)

25.6 BATTERY

In the U.S. and Canada, call 1-888-823-0954 or 1-877-255-2287

Outside the Continental U.S. and Canada please contact Eagle directly.

**NOTE: At the time a warranty claim is filed it may be necessary for Eagle Tugs to request a copy the maintenance records kept on your tug. For your convenience a printable Preventative Maintenance Schedule page is available in the Maintenance section of this manual.**



## 25.7 EAGLE STANDARD WARRANTY

Items added or modified by Eagle Tugs as shown in this manual are covered under Eagle's one year standard warranty.

The Eagle Tugs (Eagle) Standard Warranty covers all NEW MTT, STT-series, RTT-series, and Transit Pro tow tractors, as well as all Eagle tow tractor models used in non-aviation/industrial applications. Eagle Tugs warrants that these tractors will be free from defects in material and workmanship for a period of 1 year or 2,000 operating hours, from date of delivery.

This warranty does not apply to any Eagle tow tractor, or component part(s) that have damage caused by: misuse of the vehicle, accidents, collision or objects striking the vehicle, vandalism, fire, explosion or water damage, using contaminated or improper fuel/fluids, customer-applied chemicals to painted surfaces, improper handling or application, maintenance neglect including lack of lubricants or fluids; nor does it extend to the Eagle tow tractor and/or parts which have been repaired or altered outside of Eagle's plant or the facility of an Authorized Service Representative without the permission of Eagle. Furthermore any modification of the tow tractor's electrical system MUST be preapproved and documented in writing by Eagle. Failure to do so voids the unit's electrical component warranty.

This warranty does not apply to routine maintenance or wearable parts of the Eagle tow tractor such as: tires, brake pads or shoes, ball joints, kingpins, u-joints, wheel bearings, filters, seals, spark plugs, hoses, belts, light bulbs, batteries (Diesel & Gas tractors), fuses or similar items. Also snow plows and transit pro options are warranted directly to the user by their respective manufacturer and not by Eagle or an Authorized Service Representative. This warranty does not extend to the batteries and battery chargers as these are warranted directly to the user by their respective manufacturer and not by Eagle or an Authorized Service Representative.

This warranty does not cover or provide credit for the following: tractor rental or other substitute equipment; lodging; loss of time, income, sales or profits; loss of the use of tractor; telephone calls or communication expense; lift truck; storage fees; injury or death to persons or damage or destruction of property; or consequential, incidental or punitive damage.

Warranty Claim Procedure: When a warranty situation arises, it is essential that the customer contact Eagle's Warranty Department at +1 734-442-1000. The customer will need to provide Eagle with the tow tractor serial number and operating hours. A customer service representative will analyze the problem and determine the next steps. In many cases Eagle's technical support personnel will be able to analyze the problem and recommend a solution that will solve the problem and reduce down time. If further service is required, an Eagle customer service representative will work with customer personnel to arrange a service provider and/or will send parts to your facility for the repair as quickly as possible. The determination of a warrantable claim will be at the sole discretion of Eagle.

Notice of any claimed defect must be given to Eagle within the warranty period and within ten (10) days after such defect is discovered. Liability under this warranty is limited to either replacing or repairing, at Eagle's election, any part or parts deemed defective after examination by Eagle or an Authorized Service Representative. Eagle reserves the right to use remanufactured parts as replacements in warranty claims.

At Eagle's election, any part replaced under warranty as defective can be sent out for third party inspection. If the part is not found to be defective, or abuse was the cause for the failure, all associated costs related to the warranty claim may be charged to the customer. All parts returned to Eagle by a customer must be received without further damage. If returned items are not properly packaged for return shipping to Eagle or an Authorized Service Representative via prepaid transportation, the customer will be charged for the full value of the item that was Rev B, 11-Nov-2017 Standard Warranty 2 damaged upon return. This warranty does not extend beyond its original term for any Eagle tow tractor or part replaced or repaired under warranty. Any and all disputes or disagreements will be negotiated in good faith by both parties.

Labor Allowance: A labor allowance may be issued upon request at Eagle's discretion. Allowable labor hours and a per hour labor rate will be determined by Eagle according to reasonable automotive standards.

EXCEPT AS SET FORTH ABOVE, ALL WARRANTIES, CONDITIONS, REPRESENTATIONS, INDEMNITIES AND GUARANTEES, EXPRESS OR IMPLIED, WHETHER ARISING BY STATUTE, CUSTOM OF TRADE OR UNDER ORAL OR WRITTEN STATEMENTS MADE BY OR ON BEHALF OF EAGLE NEGOTIATIONS WITH CUSTOMER, DISTRIBUTOR, DEALER, OR ANY REPRESENTATIVE, ARE HEREBY OVERWRITTEN AND EXCLUDED, AND NO LIABILITY SHALL ATTACH TO EAGLE, EITHER IN CONTRACT OR IN TORT, OR STRICT LIABILITY IN TORT, FOR ANY DAMAGE TO PROPERTY, LOSS OF PROFITS, DAMAGES, COSTS, CHARGES, LIABILITY OR EXPENSES, WHETHER DIRECT OR INDIRECT, CONSEQUENTIAL OR OTHERWISE, WHICH ARISE OUT OF OR IN CONNECTION WITH THE SALE OR USE OF ANY EAGLE MACHINE OR THE SUPPLY OF SERVICES.

SUBJECT TO CHANGE WITHOUT NOTICE



## 25.8 EAGLE 3-YEAR WARRANTY

**TUG OF WARRANTY** We are so confident in the performance and reliability of our aircraft tow tractors, we have tripled the length of our Standard Warranty.

### **3-Year Warranty\***

The Eagle Tugs (Eagle) 3-Year Warranty covers all NEW TT-series, eTT-series, XM-series, XLseries, eXL-series and USATS tow tractors, used in aviation applications. Eagle Tugs warrants that these tractors will be free from defects in material and workmanship for a period of 3 years or 3,000 operating hours from date of delivery, with the exception of the electrical system which is covered for a period of 1 year or 1,000 hours (See electrical component warranty for eTT & eXL electric tow tractors below).

**Electrical Component Warranty for eTT & eXL electric tow tractors:** The following electrical components will be covered under Eagle's 3-year Warranty as they are considered major drive train components: Traction & Hydraulic Pump Motors, Drive Inverter for both the Traction and Hydraulic Pump Motors, Main & Pump Contactors, High and Low Hydraulic Pressure Switches, Steer & Shift Solenoids, DC-DC Converters, and the Programmable Vehicle Controller. This warranty does not extend to the batteries and battery chargers as these are warranted directly to the user by their respective manufacturer and not by Eagle or an Authorized Service Representative.

This warranty does not apply to any Eagle tow tractor, or component part(s) that have damage caused by: misuse of the vehicle, accidents, collision or object striking the vehicle, vandalism, fire, explosion or water damage, using contaminated or improper fuel/fluids, customer-applied chemicals to painted surfaces, improper handling or application, maintenance neglect including lack of lubricants or fluids; nor does it extend to the Eagle tow tractor and/or parts which have been repaired or altered outside of Eagle's plant or the facility of an Authorized Service Representative without the permission of Eagle. Furthermore any modification of the tow tractor's electrical system **MUST** be preapproved and documented in writing by Eagle. Failure to do so voids the unit's electrical component warranty.

This warranty does not apply to routine maintenance or wearable parts of the Eagle tow tractor such as: tires, brake pads or shoes, ball joints, kingpins, u-joints, wheel bearings, filters, seals, spark plugs, hoses, belts, light bulbs, batteries (Diesel & Gas tractors), fuses or similar items. Also snow plows and transit pro options are warranted directly to the user by their respective manufacturer and not by Eagle or an Authorized Service Representative. However, all brackets, guards, and mounts made by Eagle for these options are covered under the 3-year Warranty.

This warranty does not cover or provide credit for the following: tractor rental or other substitute equipment; lodging; loss of time, income, sales or profits; loss of the use of tractor; telephone calls or communication expense; lift truck; storage fees; injury or death to persons or damage or destruction of property; or consequential, incidental or punitive damages.

**Warranty Claim Procedure:** When a warranty situation arises, it is essential that the customer contact Eagle's Warranty Department at +1 734-442-1000. The customer will need to provide Eagle with the tow tractor serial number and operating hours. A customer service representative will analyze the problem and determine the next steps. In many cases Eagle's technical support personnel will be able to analyze the problem and recommend a solution that will solve the problem and reduce down time. If further service is required, an Eagle customer service Rev B, 11-Nov-2017 Three Year Warranty 2 representative will work with customer personnel to arrange a service provider and/or will send parts to your facility for the repair as quickly as possible. The determination of a warrantable claim will be at the sole discretion of Eagle.

Notice of any claimed defect must be given to Eagle within the warranty period and within ten (10) days after such defect is discovered. Liability under this warranty is limited to either replacing or repairing, at Eagle's election, any part or parts deemed defective after examination by Eagle or an Authorized Service Representative. Eagle reserves the right to use remanufactured parts as replacements in warranty claims.

At Eagle's election, any part replaced under warranty as defective can be sent out for third party inspection. If the part is not found to be defective, or abuse was the cause for the failure, all associated costs related to the warranty claim may be charged to the customer. All parts returned to Eagle by a customer must be received without further damage. If returned items are not properly packaged for return shipping to Eagle or an Authorized Service Representative via prepaid transportation, the customer will be charged for the full value of the item that was damaged upon return. This warranty does not extend beyond its original term for any Eagle tow tractor or part replaced or repaired under warranty. Any and all disputes or disagreements will be negotiated in good faith by both parties.

**Labor Allowance:** A labor allowance may be issued upon request at Eagle's discretion. Allowable labor hours and a per hour labor rate will be determined by Eagle according to reasonable automotive standards.

**EXCEPT AS SET FORTH ABOVE, ALL WARRANTIES, CONDITIONS, REPRESENTATIONS, INDEMNITIES AND GUARANTEES, EXPRESS OR IMPLIED, WHETHER ARISING BY STATUTE, CUSTOM OF TRADE OR UNDER ORAL OR WRITTEN STATEMENTS MADE BY OR ON BEHALF OF EAGLE NEGOTIATIONS WITH CUSTOMER, DISTRIBUTOR, DEALER, OR ANY REPRESENTATIVE, ARE HEREBY OVERWRITTEN AND EXCLUDED, AND NO LIABILITY SHALL ATTACH TO EAGLE, EITHER IN CONTRACT OR IN TORT, OR STRICT LIABILITY IN TORT, FOR ANY DAMAGE TO PROPERTY, LOSS OF PROFITS, DAMAGES, COSTS, CHARGES, LIABILITY OR EXPENSES, WHETHER DIRECT OR INDIRECT, CONSEQUENTIAL OR OTHERWISE, WHICH ARISE OUT OF OR IN CONNECTION WITH THE SALE OR USE OF ANY EAGLE MACHINE OR THE SUPPLY OF SERVICES.**



Models: TT-4, TT-5, TT-6, TT-8  
Yanmar Diesel 4TNV98 Engine

**SUBJECT TO CHANGE WITHOUT NOTICE**

Please check our website [www.eagletugs.com](http://www.eagletugs.com) periodically for service bulletins and updates to manuals.

\*Note - The Eagle Tugs 3-Year Warranty covers TT-series, eTT-series, XM-series XL-series, eXL -series and USATS tow tractors used in aviation applications. All MTT, RTT-series, Transit Pro tow tractors, and all Eagle models which are used in non-aviation/industrial applications are covered under the Eagle Standard Warranty of 1 Year or 2,000 hours. Eagle Bob Tails are covered under Ford Motor Company's Standard Warranty for each respective Ford truck model