

Columbus**JACK**/Regent



**Model 59J6185-35**  
**20 Ton Tripod Jack**  
**Ref: 2053-35**

Operation and Maintenance Manual  
with Illustrated Parts List

2222 South Third Street  
Columbus, Ohio 43207-2402  
Phone (614) 443-7492 FAX (614) 445-3981  
[sales@columbusjack.com](mailto:sales@columbusjack.com)

9/6/2017

**MODEL 59J6185-35  
20 TON TRIPOD JACK  
PAGE -1-**

**1.0 Introduction**

This manual is issued as a basic operation and maintenance manual covering the Model 59J6185-35, 20 Ton Tripod Jack manufactured by Columbus**JACK**/Regent, 2222 S. Third St., Columbus, OH 43207, USA, phone number (614) 443-7492, FAX number (614) 445-3981.

To derive maximum service, it is recommended that personnel have an understanding of the equipment before attempting to operate the jack. It is mandatory that the operating procedures herein be followed.

**2.0 Specifications**

Capacity	20 Tons
Minimum Height	53 Inches
Hydraulic Lift	40 Inches
Screw Extension	15 Inches
Maximum Height	108 Inches
Operating Pressure	2740 Psi
Relief Valve Pressure	3014 Psi
Reservoir Capacity	3.4 Gallon
Air Requirements	
Pressure	80 Psi Minimum
Flow	40 Scfm Minimum

**3.0 Safety Information**

***Make sure all personnel involved with this tripod jack read and understand these instructions before using jack.***

**WARNING:** Each jack is operated independently and aircraft must be raised evenly to provide stability. Failure to use safe jacking practices may result in equipment damage and injury to personnel. Personnel not involved in jacking the aircraft must remain clear of the immediate area. Other work should not be performed until jacking is completed and aircraft is stabilized. Do not work under suspended loads unless required. Failure to follow strict safety precautions may result in equipment damage and injury or death to personnel. When jacking operations are completed and aircraft is stabilized, necessary personnel may complete required maintenance actions under aircraft.

**MODEL 59J6185-35  
20 TON TRIPOD JACK  
PAGE -2-**

**3.0 Safety Information (continued)**

**The jack is designed to lift only vertical loads with a maximum weight of 20 tons (40,000 pounds). Do not use jack for lifts exceeding the weight or design limits. Failure to comply can result in injury or death to personnel and/or severe damage to the jack and aircraft.**

**Casters will carry only weight of jack. Ensure casters compress under aircraft load to prevent injury to personnel and equipment damage.**

**4.0 System Bleed Procedure**

- 4.1 Break hydraulic line at base of cylinder.
- 4.2 Operate hand pump until oil comes out freely with no air bubbles. Retighten hydraulic line at base of cylinder.
- 4.3 Raise ram approximately six (6) inches with hand pump.
- 4.4 Open release valve.
- 4.5 If ram fails to raise, repeat steps 4.1 thru 4.2 until all air is removed and ram is able to raise upon using hand pump.

**5.0 Pre-Operation Procedure**

- 5.1 Perform visual inspection, by checking for oil leakage.
- 5.2 Check for loose, damaged or missing parts.
- 5.3 Check oil level.
- 5.4 Ensure Air Vent (Figure 5, Item 28) is open, if applicable.

**6.0 Lifting Procedure**

- 6.1 Extension screw should be screwed down and ram should be fully retracted.
- 6.2 Position jack under load lifting point. Verify that jack footpads will rest on level concrete foundation. If not on concrete, it may be necessary to place a flat steel plate under footpads to distribute jack bearing pressure.
- 6.3 Unscrew the extension screw as required.
- 6.4 Close release valve.

## 6.0 Lifting Procedure (continued)

- 6.5 Operate pump to extend ram until contact is made with load lift point and extension screw adapter, with no pressure applied.
- 6.6 Rotate jack approximately 15° in any direction to minimize jack movement when load is applied to casters.
- 6.7 Operate pump to extend ram until the footpads touch the ground.
- 6.8 Extend ram to desired height.

**WARNING: MAINTAIN APPROXIMATELY ONE (1) INCH CLEARANCE BETWEEN LOCKNUT AND MATING SURFACE DURING RAISING AND LOWERING OF RAM.**

- 6.9 Screw locknut down against cylinder head and screw thumbscrew in locknut down against ram to mechanically secure the lifted load.

**NOTE: Thumbscrew must be screwed down against ram to secure lifted load.**

- 6.10 Open release valve to release hydraulic pressure.

## 7.0 Lowering Procedure

- 7.1 Close release valve.
- 7.2 Unscrew thumbscrew in locknut and operate pump to raise ram until locknut is free to rotate.
- 7.3 Slowly open jack release valve and allow ram to fully retract

**NOTE: Speed of lowering is controlled by how far release valve is open.**

**WARNING: MAINTAIN APPROXIMATE ONE (1) INCH CLEARANCE BETWEEN LOCKNUT AND MATING SURFACE DURING LOWERING OF RAM.**

- 7.4 Lower extension screw completely.

## 8.0 Relief Valve Setting (Figure 5)

- 8.1 Position jack under a jack tester. Partially extend the ram.
- 8.2 Remove Pipe Plug (Item 30).
- 8.3 Insert a screwdriver into plug hole and align with adjusting screw (Item 31).

**MODEL 59J6185-35  
20 TON TRIPOD JACK  
PAGE -4-**

**8.0 Relief Valve Setting (Figure 5, continued)**

8.4 Operate hand pump and verify that safety valve is set at 20 - 22 tons. Increase pressure setting by using screwdriver to adjust safety valve screw clockwise. To decrease pressure setting, adjust safety valve screw counterclockwise.

**CAUTION: USE CARE NOT TO SET VALVE MORE THAN 10% ABOVE RATED CAPACITY.**

**WARNING: DO NOT EXCEED 22 TONS.**

8.5 Remove screwdriver and reinstall Pipe Plug (Item 30).

**9.0 Special Maintenance Instructions**

There are no special maintenance instructions for this jack.

**10.0 Shop Aids Available**

Contact Columbus**JACK**/Regent Sales for any shop aids.

**11.0 Overhaul Kits Available**

Softl Kit	120A1581
Repair Kit	120A1612

**12.0 How to Locate and Remedy Trouble**

If operational troubles are encountered, refer to the Trouble Shooting Chart which lists the most commonly occurring problems and gives information which will facilitate location of trouble source and determination of remedial action.

**MODEL 59J6185-35  
20 TON TRIPOD JACK  
PAGE -5-**

**TROUBLESHOOTING CHART**

TROUBLE	PROBABLE CAUSE	REMEDY
Rams will not rise.	Open pump release valve. Ball not seated; oil passing back into reservoir.	Close release valve firmly. If necessary, reopen release valve, pump rapidly to flush out foreign matter. Close release valve.
	Open intake valve. Ball not seated; oil passing back into reservoir.	Pump rapidly to flush system.
	Open discharge valve. Ball not seated; oil passing back into pump chamber.	Pump rapidly to flush system.
	Sticking intake valve	Pump rapidly to flush system.
	Clogged screen	Remove and clean
	Lack of oil	Refill - Check for leaks
	Air under ram	Bleed system
	Leaks in hose assembly	Retighten, repair or replace
	Faulty pump safety valve (set too low or it leaks)	Reset adjusting screw
	Faulty jack relief valve (set too low or it leaks)	Reset
Casters fail to retract under load.	Dirty casters	Remove casters, clean housing, reassemble and lubricate.
Jack will not raise capacity load.	Faulty pump safety valve	Reset adjusting screw
	Faulty jack relief valve	Reset
	High pressure leaks at joints, plugs or tubing	Retighten or repair
	Leaky discharge valve	Replace pump body
	Leaky ram o-ring packing	Replace packing
	Leaky pump release	Tighten
	Leaky pump o-ring packing	Replace packing
Jack will not raise to full height.	Lack of oil	Refill reservoir; check system for leaks.
	Sticking intake valve	Pump rapidly to dislodge
	Clogged screen	Clean screen
	Closed air vent	Open air vent
Jack rises and falls during each stroke.	Leaky discharge valve	Replace defective parts or rework valve seat in pump base.

**MODEL 59J6185-35  
20 TON TRIPOD JACK  
PAGE -6-**

**TROUBLESHOOTING CHART**

<b>TROUBLE</b>	<b>PROBABLE CAUSE</b>	<b>REMEDY</b>
Rams will not support load.	Leaky release valve	Tighten
	Leaky discharge valve	Replace pump body
	Leaky ram o -ring packing	Replace packing
	Leaky pump relief valve	Replace pump base
	Leaks in oil line	Retighten or repair
Jack will not lower the load.	Safety ram lock nut not in right place.	Loosen screw and rotate nut to top of ram and tighten screw.
	Broken pump release valve	Replace pump body
	Bent ram	Rework ram or replace entire lift unit.
Jack will not completely close.	Safety ram lock nut not in right place.	Loosen screw and rotate nut to top of ram and tighten screw.
	Damaged ram	Replace lift unit
	Air under ram	Bleed system
	Restricted oil passage	Disconnect one end of hose and pump handle rapidly to flush.
Handle stroke partially ineffective.	Sticking intake valve	Open release valve and pump handle rapidly to flush system.
	Clogged screen	Remove and clean
	Closed air vent	Open
	Air in pump chamber	Open release valve and pump handle rapidly to flush.
Handle effort too high.	Wrong position for pivot pin	Change position
	Restricted oil passage.	Disconnect one end of hose and pump handle rapidly to flush.
Handle moves back toward reservoir.	Leaky discharge valve. Air in pump chamber.	Open release valve and pump handle rapidly to flush.
Handle raises without effort.	Leaky intake valve	Open release valve and pump handle rapidly to flush.
Handle snaps back.	Sticking intake valve	Open release valve and pump handle rapidly to flush.
	Clogged screen	Remove and clean
	Closed air vent	Open air vent

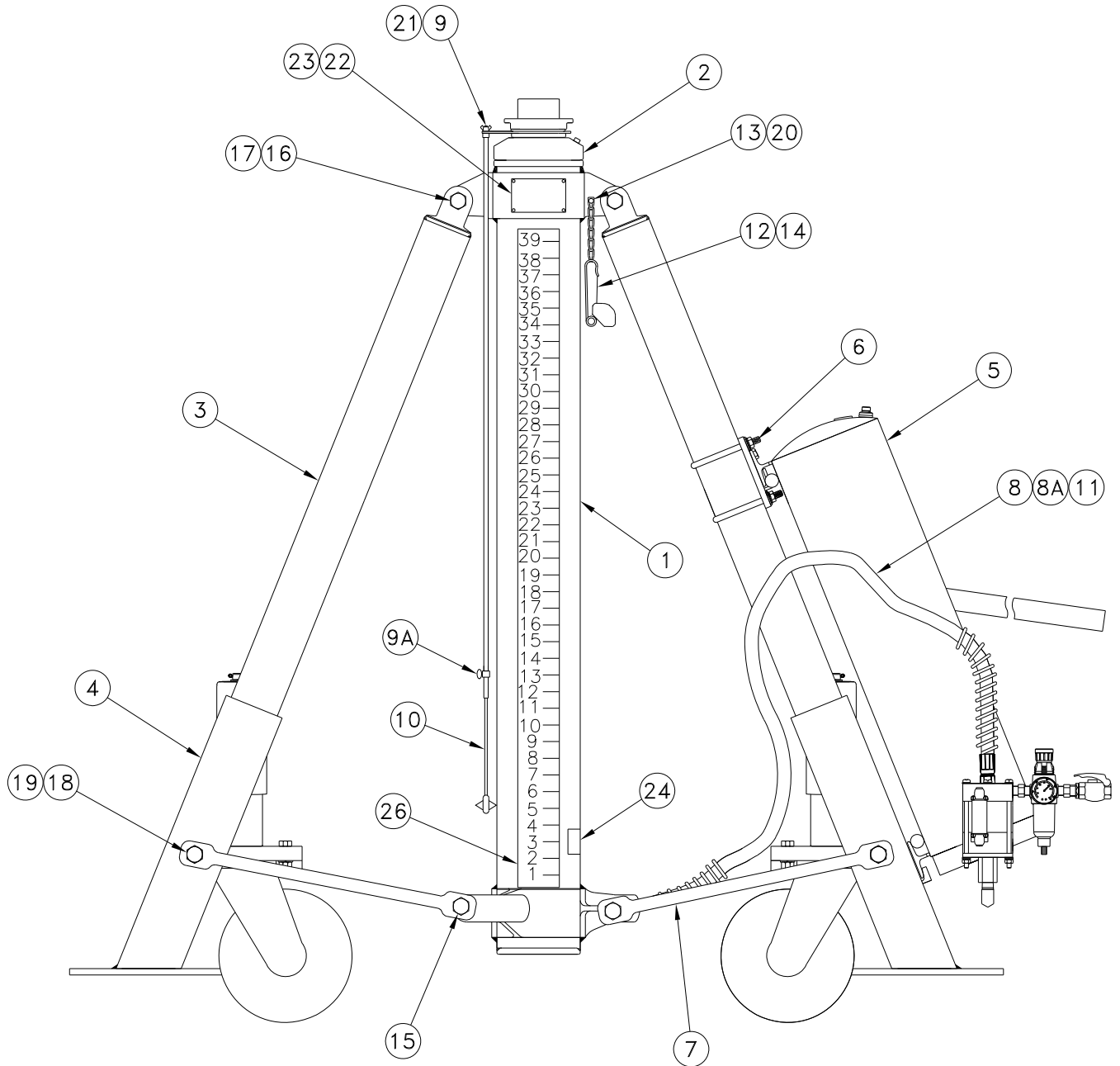
# ColumbusJACK/Regent

Model 59J6185-35  
 20 Ton Tripod Jack  
 Page 1 of 2  
 Figure 1

FIG. & ITEM NO.	PART NUMBER	DESCRIPTION	UNITS PER ASS'Y
<b>1-</b>	<b>59J6185-35</b>	<b>20 Ton Tripod Jack.....</b>	<b>Ref.</b>
-1	59H6187	Cylinder Assembly .....	1
-2	59C6193	Ram Assembly.....	1
-3	52B6434	Leg, Upper .....	3
-4	53J7247	Foot Assembly .....	3
-5	567-1011	Pump Assembly.....	1
-6	270AS204-3	Clamp Assembly.....	1
-7	44D9838	Brace #1 .....	6
-8	49B6568	Hose Assembly.....	1
-8A	900732-6	Spring Guard .....	2
-9	49B6450	Tube Assembly .....	1
-9A	6-32	Thumbscrew .....	1
-10	48A7878	Rod-Pointer.....	1
-11	43A13906	Connector Assembly .....	1
-12	42A7530	Adapter .....	1
-13	450-4001	Chain .....	1
-14	JC11636	Pin, Blanket.....	1
-15	44A10316-1	Bolt.....	6
-16	AN12-22A	Bolt.....	3
-17	MS21083-N12	Hex Nut.....	3
-18	MS90726-176	Bolt.....	3
-19	MS21083-N10	Hex Nut.....	9
-20	MS21318-41	Drive Screw .....	1
-21	AN350-1032	Wing Nut .....	1
-22	160A601	Nameplate .....	1
-23	MS21318-13	Drive Screw .....	4
-24	42A13047	Decal, 20 Ton .....	1
-25	59C6186	Assembly Decal, (Not Shown).....	1
-26	49B6454	Decal, Rise Indicator .....	1

# ColumbusJACK/Regent

Model 59J6185-35  
20 Ton Tripod Jack  
Page 2 of 2  
Figure 1



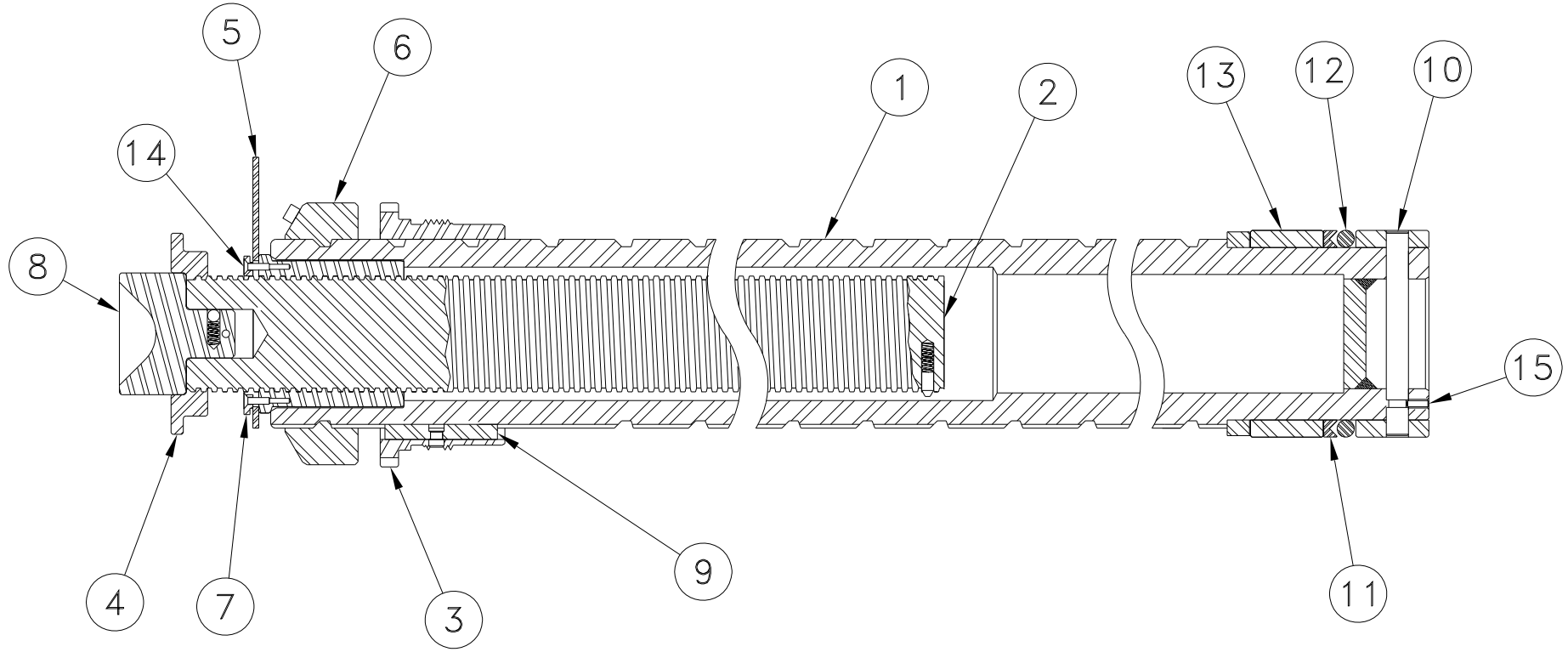
# ColumbusJACK/Regent

Model 59J6185-35  
 20 Ton Tripod Jack  
 Page 1 of 2  
 Figure 2

FIG. & ITEM NO.	PART NUMBER	DESCRIPTION	UNITS PER ASSY
<b>2-</b>	<b>59C6193</b>	<b>Ram Assembly.....</b>	<b>Ref.</b>
-1	59C6714	Ram and Nut Assembly .....	1
-2	59B6195	Extension Screw Assembly .....	1
-3	48C7872	Bearing, Upper .....	1
-4	42B13039	Safety Nut.....	1
-5	48B7875	Collar, Rise Indicator .....	1
-6	43A12190-1	Locknut Assembly .....	1
-7	49A7270	Collar, Clamp.....	1
-8	56B6129	Socket Assembly.....	1
-9	43A12189-1	Key Assembly.....	1
-10	59B6194	Pin .....	1
-11	48B7863-1	Backup Ring .....	1
-12	48B7864-1	O-Ring .....	1
-13	49B6449	Bearing, Lower .....	2
-14	AN510-6R10	Screw .....	4
-15	AN565E428H7	Set Screw .....	1

# ColumbusJACK/Regent

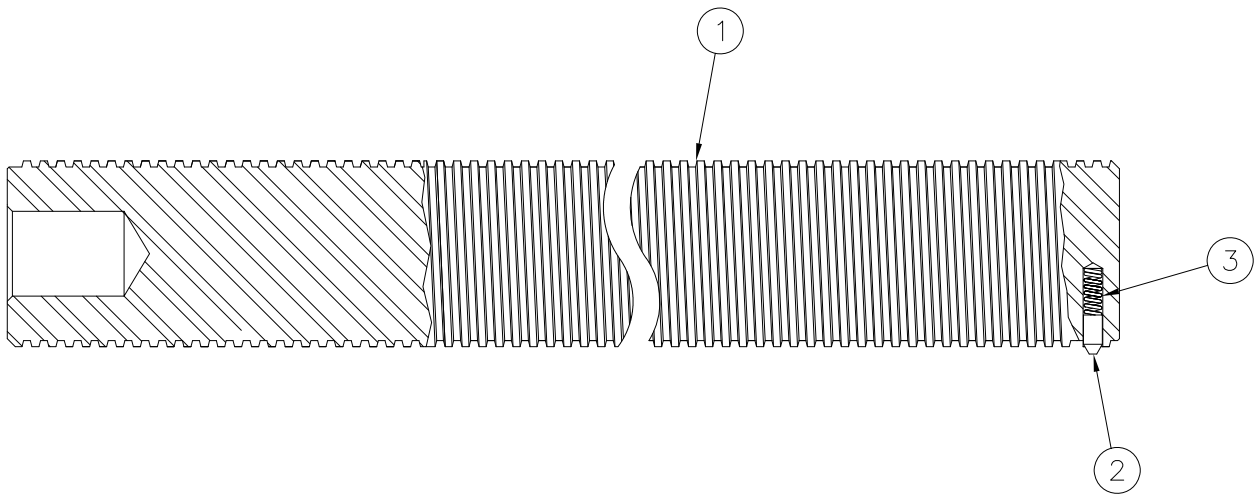
Model 59J6185-35  
20 Ton Tripod Jack  
Page 2 of 2  
Figure 2



# ColumbusJACK/Regent

Model 59J6185-35  
20 Ton Tripod Jack  
Page 1 of 1  
Figure 3

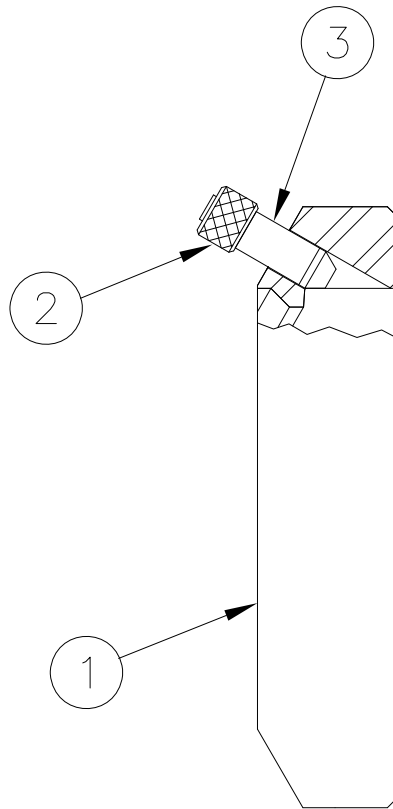
FIG. & ITEM NO.	PART NUMBER	DESCRIPTION	UNITS PER ASS'Y
-3	59B6195	Extension Screw Assembly.....	Ref.
-1	59C6189	Extension Screw .....	1
-2	42A12988	Plunger .....	1
-3	42A12989	Spring .....	1



# ColumbusJACK/Regent

Model 59J6185-35  
 20 Ton Tripod Jack  
 Page 1 of 1  
 Figure 4

FIG. & ITEM NO.	PART NUMBER	DESCRIPTION	UNITS PER ASS'Y
-4	43A12190-1	Nut Assembly.....	Ref.
-1	42D13035	Locknut .....	1
-2	42A13037	Head, Screw .....	1
-3	42A13036	Retaining Screw .....	1



# ColumbusJACK/Regent

Model 59J6185-35  
 20 Ton Tripod Jack  
 Page 1 of 5  
 Figure 5

FIG. & ITEM NO.	PART NUMBER	DESCRIPTION	UNITS PER ASS'Y
<b>5-</b>	<b>567-1011</b>	<b>Pump Assembly - Booster .....</b>	<b>Ref.</b>
-1	52C22938	Pump Handle .....	1
-2	322-03240-SS	Cotter Pin .....	3
-3	AN960-716	Flat Washer .....	2
-4	321-18400	Clevis Pin .....	1
-5	322-02160-SS	Cotter Pin .....	1
-6	52A22940	Lever Clamp .....	1
-7	52B22939	Clamp, Pump .....	1
-8	450C1829	Booster Pump Kit .....	1
-9	AN960-616	Flat Washer .....	1
-10	321-16410	Clevis Pin .....	1
-11	44A9858	Link, Pump .....	1
-12	43A13906	Connector Assembly, Male .....	1
-13	457-10606	Male Connector .....	1
-14	321-18480	Clevis Pin .....	1
-15	52B22890	Piston, Pump .....	1
-16	44A9859	Cylinder, Pump .....	1
-17	44B9849	Bearing .....	1
-18	45A21336	Washer, Fiber .....	2
-19	611-21321	O-Ring .....	1
-20	49B6412-18	Backup Ring .....	1
-21	44A9868	Nut, Pump .....	1
-22	43A13905	Connector Assembly, Female .....	1
-23	50B7759	Reservoir Weldment .....	1
-24	Not Used		
-25	44A9864	Plug, Retaining .....	1
-26	42A13004	Spring .....	1
-27	216-1-22	Steel Ball .....	2
-28	50B7763	Air Vent Assembly .....	1
-29	Not Used		
-30	488-00006	Pipe Plug .....	1
-31	50B7769	Screw, Adjusting .....	1
-32	50B7770	Spring .....	1
-33	216-1-16	Steel Ball .....	2
-34	1041-1465	Release Valve Assembly .....	1
-35	44A8562	Snap Ring .....	1
-36	611-00800	O-Ring .....	1
-37	44A8566	Nut, Packing .....	1
-38	312-24041	Set Screw, Flat Point .....	1
-39	216-1-32	Steel Ball .....	1
-40	44A10313	Spring, Pump .....	1
-41	50B7768	Plug, Screen .....	1
-42	611-11111	O-Ring .....	1
-43	50B7767	Spring, Screen .....	1
-44	44A10314	Screen, Pump .....	1
-45	567-7758C	Pump Base .....	1

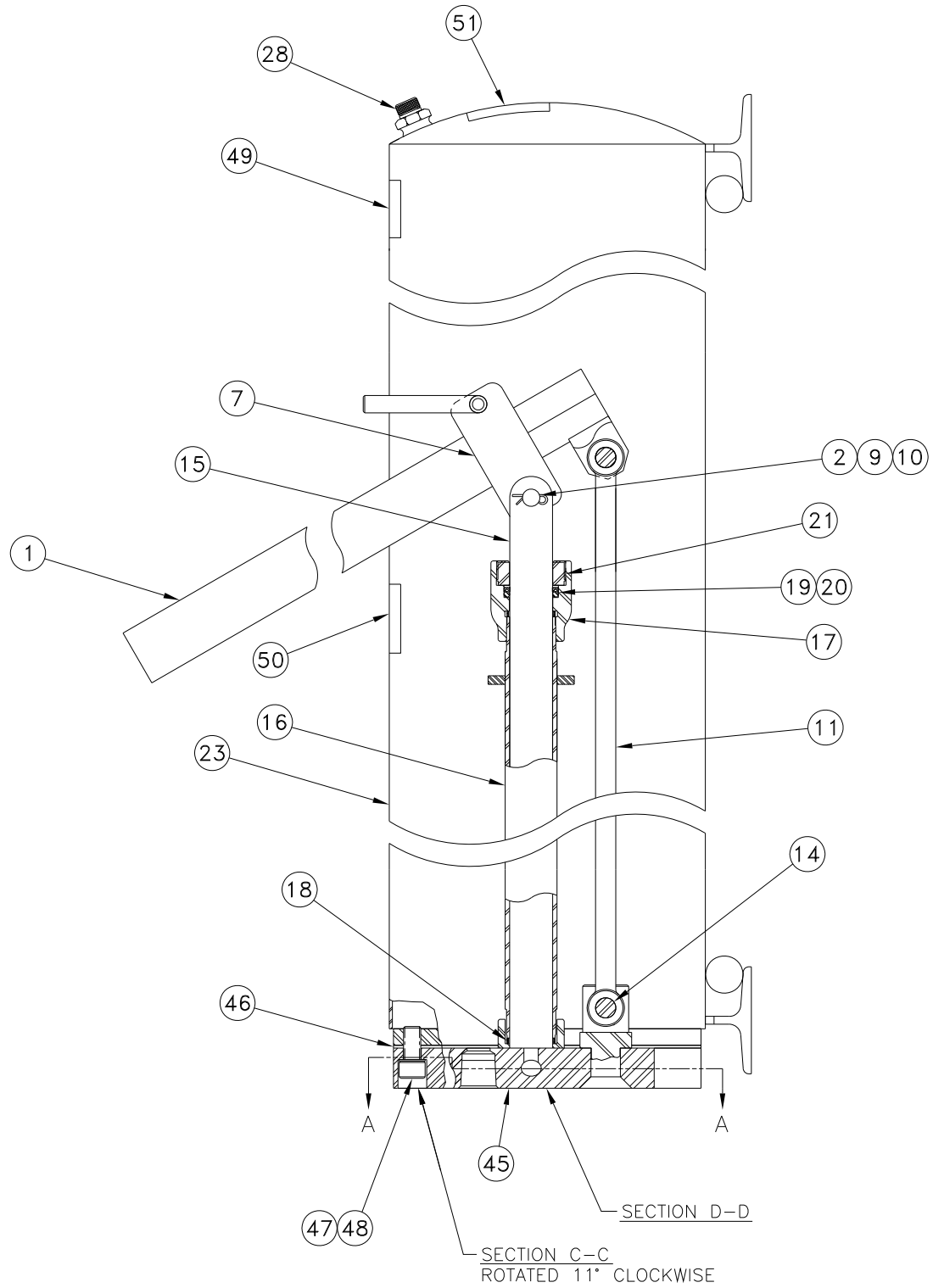
# ColumbusJACK/Regent

Model 59J6185-35  
20 Ton Tripod Jack  
Page 2 of 5  
Figure 5

FIG. & ITEM NO.	PART NUMBER	DESCRIPTION	UNITS PER ASS'Y
-46	50B7762	Gasket, Pump.....	1
-47	378-16060	Socket Head Cap Screw .....	6
-48	48A7858	Washer, Cap.....	6
-49	44A8573	Decal, Caution .....	1
-50	42A13047	Decal.....	1
-51	44A10315	Decal, Pump Instructions.....	1

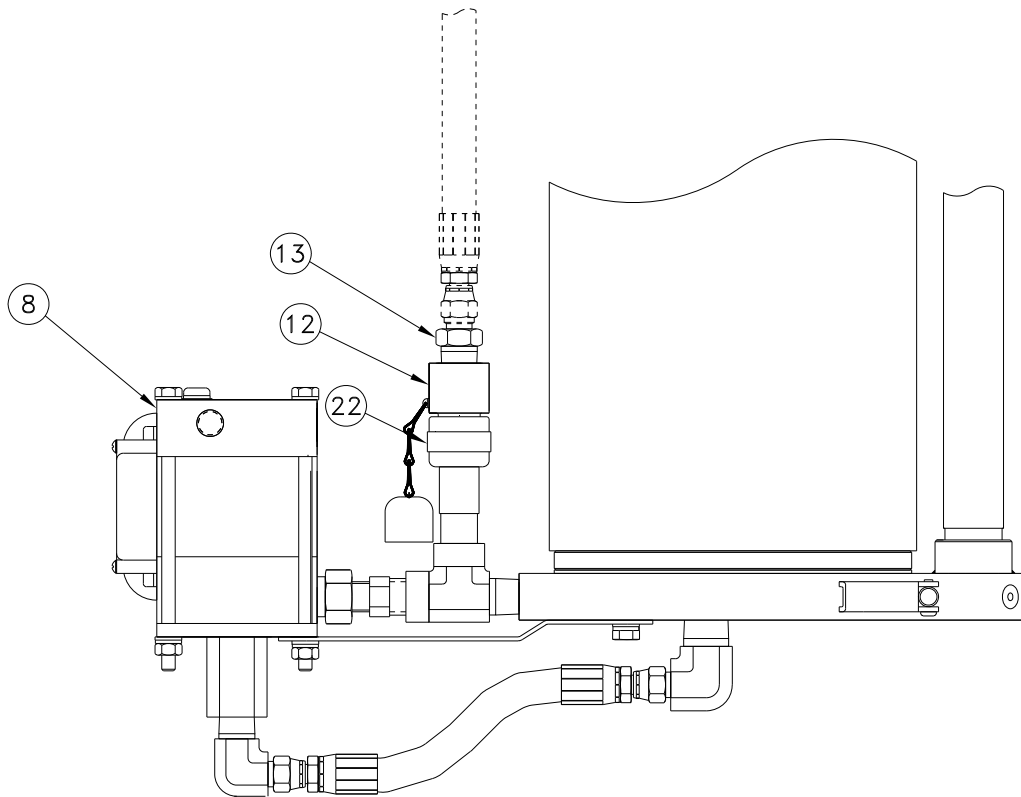
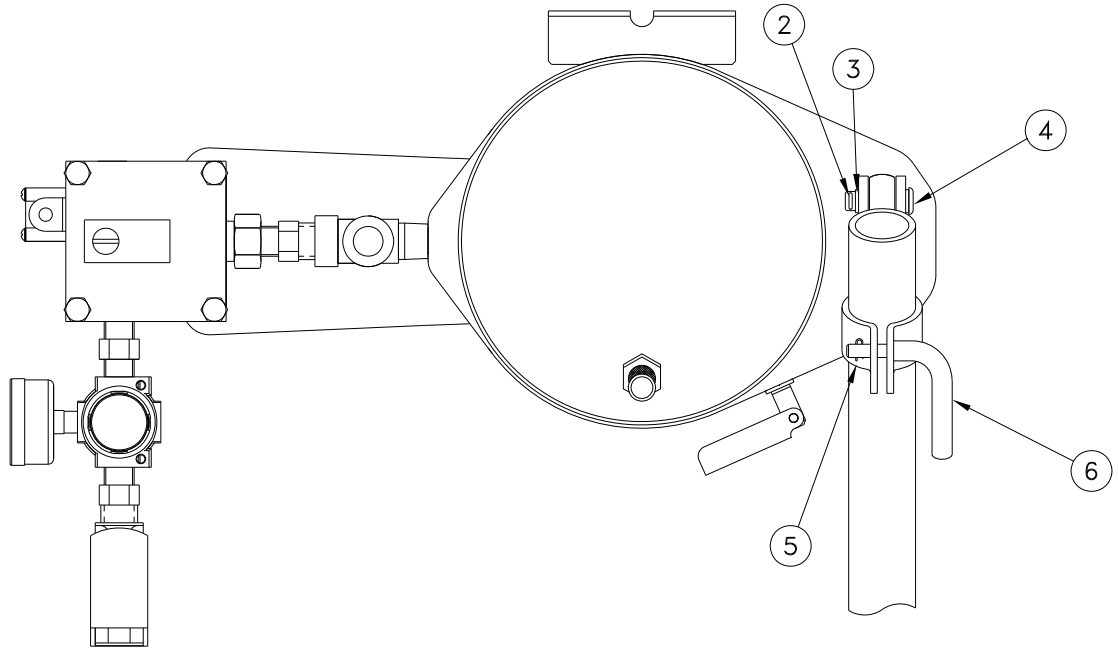
# ColumbusJACK/Regent

Model 59J6185-35  
20 Ton Tripod Jack  
Page 3 of 5  
Figure 5



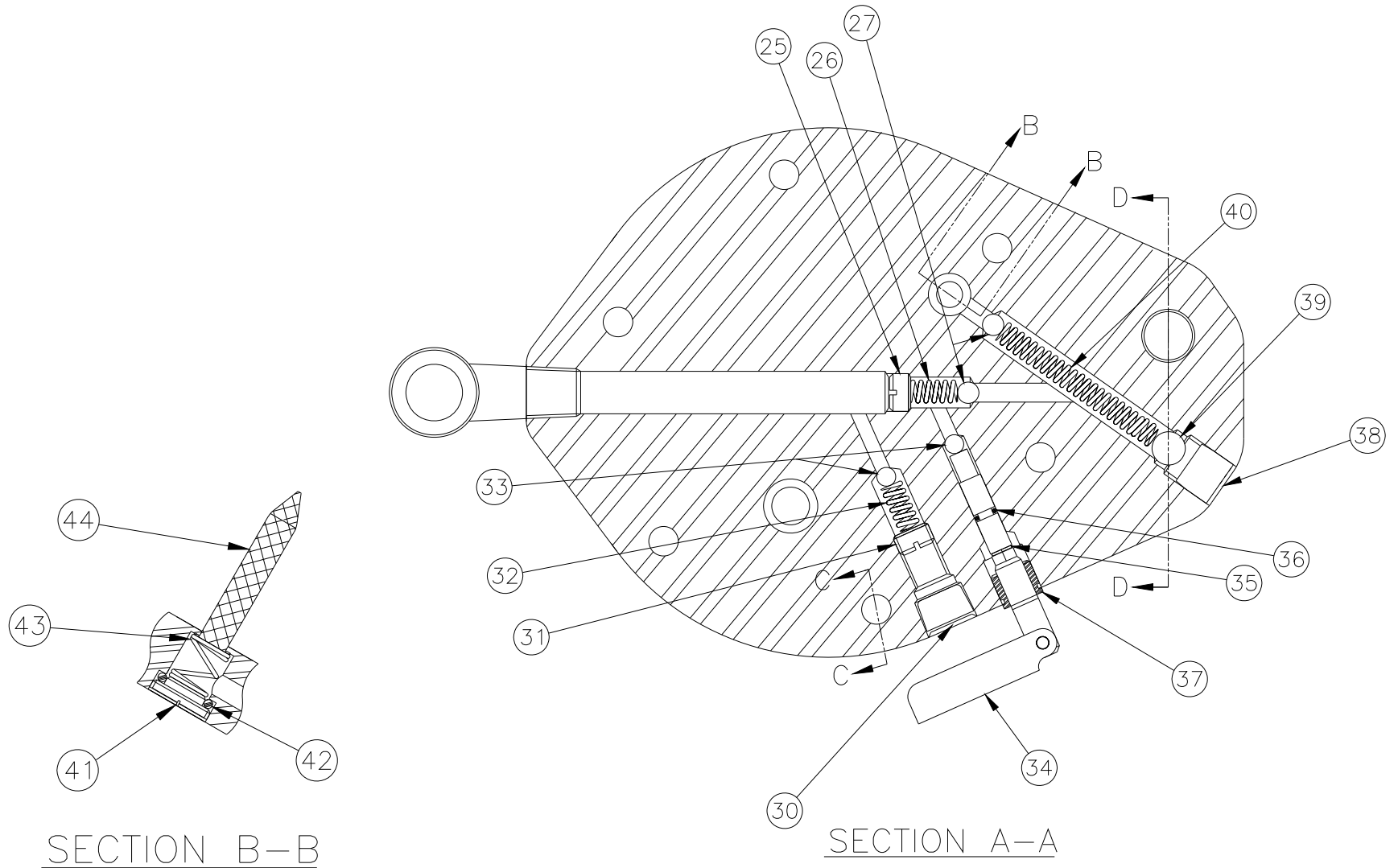
# ColumbusJACK/Regent

Model 59J6185-35  
20 Ton Tripod Jack  
Page 4 of 5  
Figure 5



# ColumbusJACK/Regent

Model 59J6185-35  
20 Ton Tripod Jack  
Page 5 of 5  
Figure 5



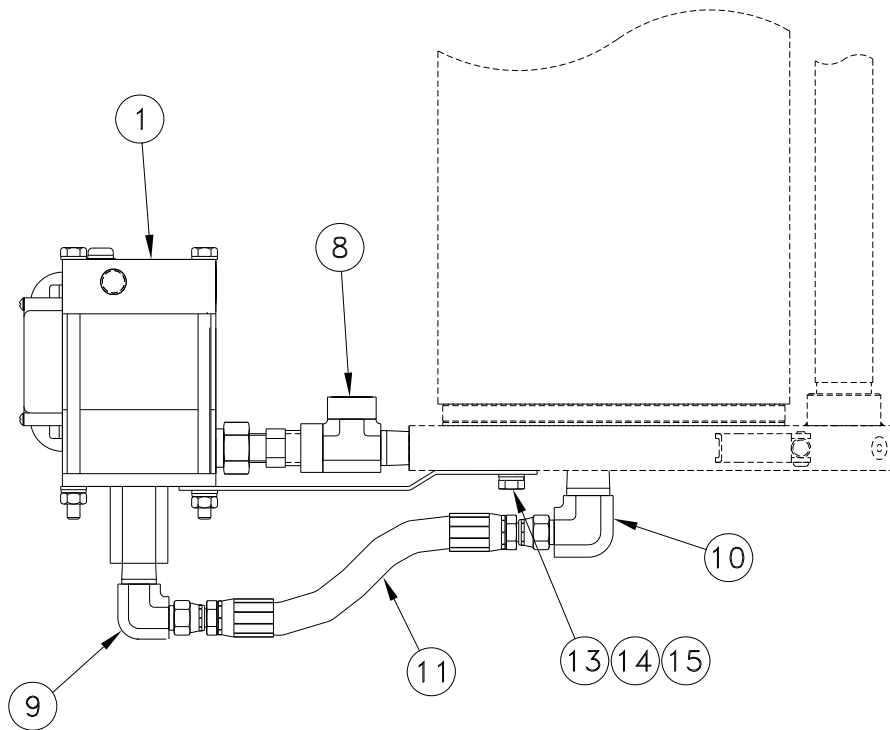
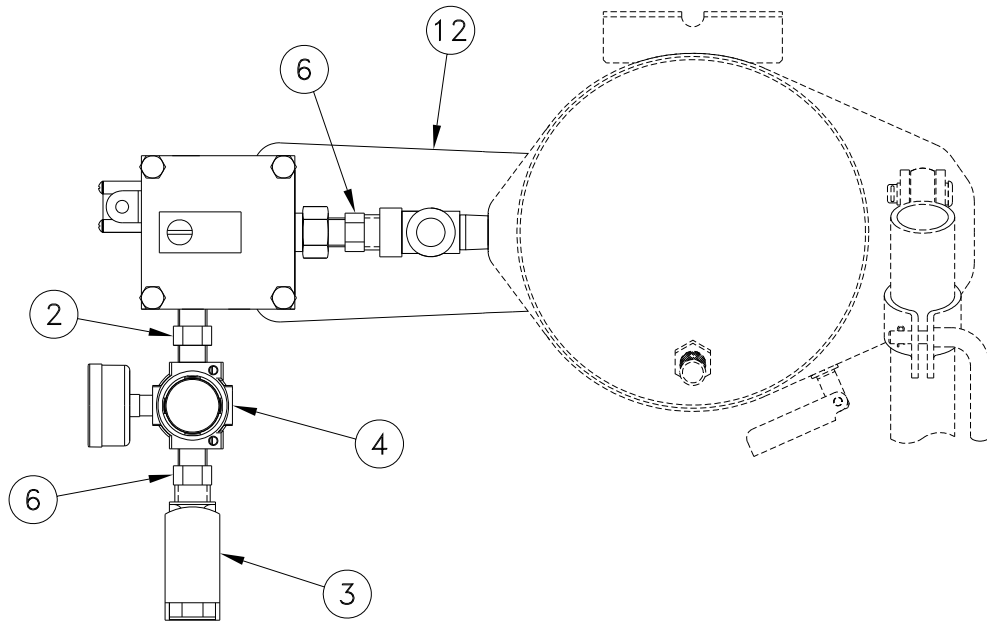
# ColumbusJACK/Regent

Model 59J6158-35  
 20 Ton Tripod Jack  
 Page 1 of 2  
 Figure 6

FIG. & ITEM NO.	PART NUMBER	DESCRIPTION	UNITS PER ASS'Y
<b>6-</b>	<b>450C1829</b>	<b>Booster Pump Kit .....</b>	<b>Ref.</b>
-1	450A3355	Pneudraulic Pump .....	1
-2	483-10404	Pipe Nipple .....	1
-3	450A3202	Valve .....	1
-4	450A3381	Filter Regulator .....	1
-5	Not Used		
-6	483-10604	Pipe Nipple .....	2
-7	Not Used		
-8	485-40606	Male Run Tee .....	1
-9	456-10606	Male Elbow .....	1
-10	456-10608	Male Elbow .....	1
-11	450A4100-8	Hose Assembly .....	1
-12	570-036	Pump Bracket .....	1
-13	371-12050	Hex Head Cap Screw .....	2
-14	345-11016	Flat Washer .....	2
-15	346-10016	Lockwasher .....	2

# ColumbusJACK/Regent

Model 59J6185-35  
20 Ton Tripod Jack  
Page 2 of 2  
Figure 6



SOME ITEMS REMOVED FOR CLARITY

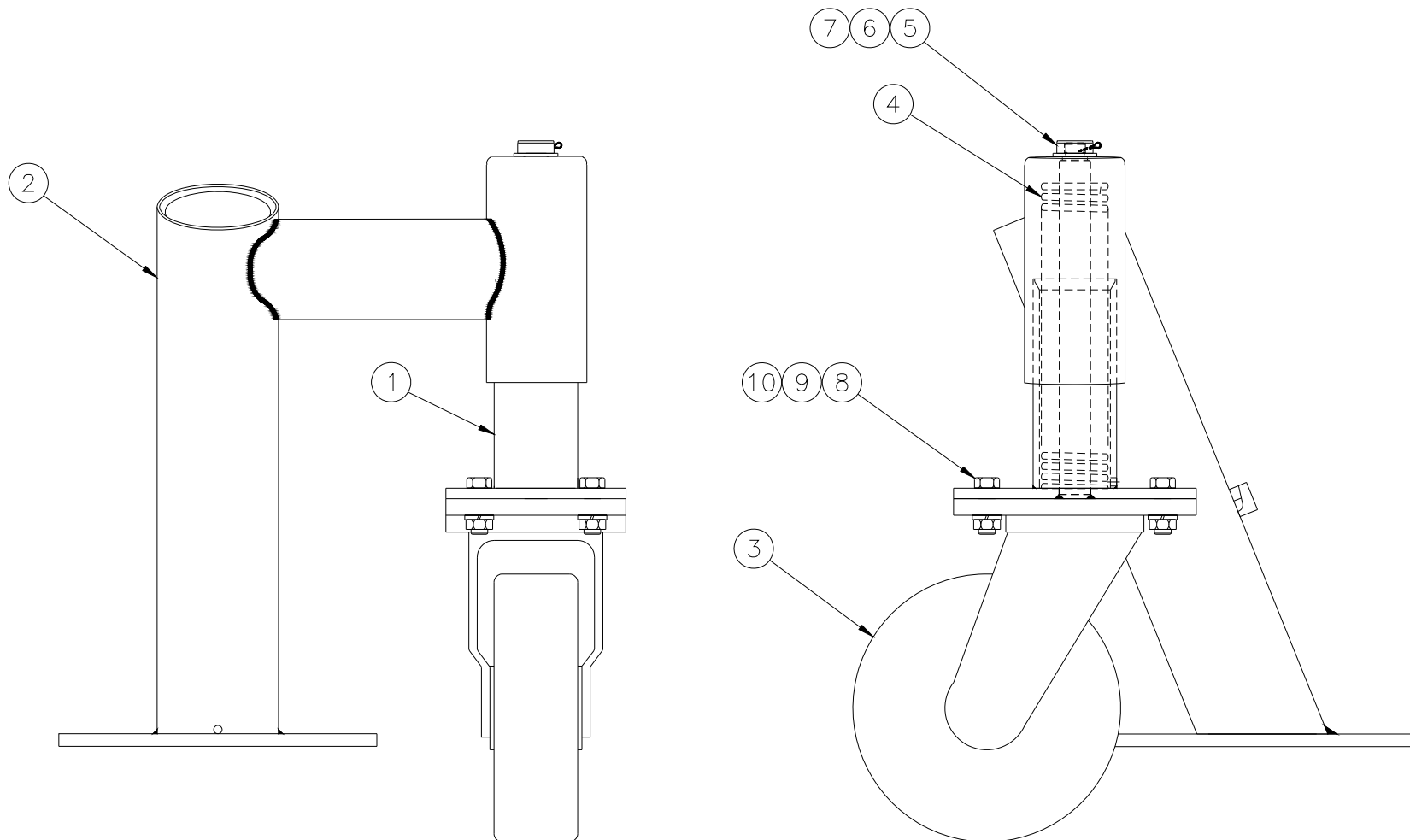
# ColumbusJACK/Regent

Model 59J6185-35  
20 Ton Tripod Jack  
Page 1 of 2  
Figure 7

FIG. & ITEM NO.	PART NUMBER	DESCRIPTION	UNITS PER ASSY
<b>7-</b>	<b>53J7247</b>	<b>Foot Assembly.....</b>	<b>Ref.</b>
-1	53C6272	Caster Mount.....	1
-2	53J7248	Foot Caster Weldment .....	1
-3	MS24380-8SM	Caster, Steel.....	1
-4	CJ66A0160	Spring .....	1
-5	AN960-1216	Flat Washer .....	1
-6	AN320-10	Nut, Castle.....	1
-7	MS24665-370	Cotter Pin .....	1
-8	MS90726-113	Hex Head Cap Screw.....	4
-9	MS35338-86	Lockwasher .....	4
-10	MS51968-14	Hex Nut .....	4

# ColumbusJACK/Regent

Model 59J6185-35  
20 Ton Tripod Jack  
Page 2 of 2  
Figure 7



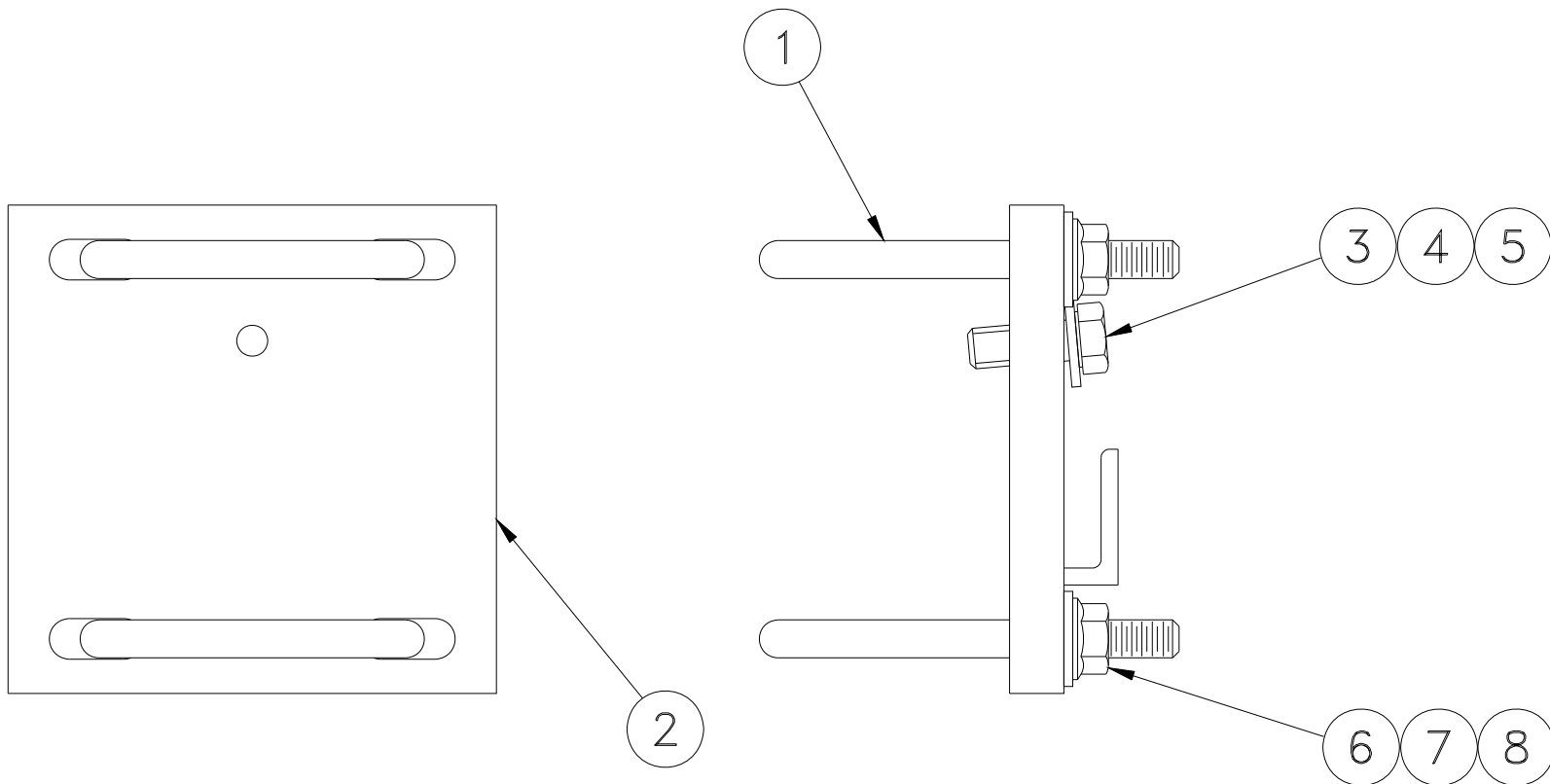
# ColumbusJACK/Regent

Model 59J6185-35  
 20 Ton Tripod Jack  
 Page 1 of 2  
 Figure 8

FIG. & ITEM NO.	PART NUMBER	DESCRIPTION	UNITS PER ASS'Y
<b>8-</b>	<b>270AS204-3</b>	<b>Clamp Assembly.....</b>	<b>Ref.</b>
-1	NAS3105C24-20	U-Bolt.....	2
-2	270AS205	Plate.....	1
-3	MS35338-46	Lockwasher.....	1
-4	MS90725-60	Hex Head Cap Screw.....	1
-5	MS27183-13	Flat Washer.....	1
-6	MS27183-11	Flat Washer.....	4
-7	MS35338-45	Lockwasher.....	4
-8	MS35691-15	Hex Nut, Jam.....	4

# Columbus**JACK**/Regent

Model 59J6185-35  
20 Ton Tripod Jack  
Page 2 of 2  
Figure 8



# Appendix



# **ROUTINE JACK MAINTENANCE BULLETIN**

RJM 102

1 OF 1

## **TO PROVIDE COMPLETE INFORMATION ON SERVICING ColumbusJACK/REGENT QUALITY GROUND HANDLING EQUIPMENT**

### **PROCEDURE FOR WINTERIZATION OF HYDRAULIC AIRCRAFT JACKS**

The following procedures should be utilized for optimum operational characteristics when using jacks at various temperature extremes:

- 1) Above 0°F (-18°C)

Use MIL-H-5606, or equal, with no further additive required.

- 2) At 0°F (-18°C) to -20°F (-29°C)

Use a mixture of 75% MIL-H-5606, or equal, and 25% kerosene.

- 3) Below -20°F (-29°C)

Use a mixture of 50% MIL-H-5606, or equal, and 50% kerosene.

Due to most company, safety, or union regulations which restrict employees from working out-of-doors below -30°F (-34°C), there is a lack of experience beyond this point. It is permissible, however, to increase the percentage of kerosene up to 100%. As the ambient temperature increases, MIL-H-5606, should be added back to the system in the appropriate mixture.

The air supply should be clean and dry. At -30°F (-34°C), the air pump will start to react sluggishly and continue to operate less efficiently as the temperature decreases when a normal air supply is used. The problem can be eliminated by using a dry nitrogen source of sufficient capacity.

To ease the operation of the locknut(s) and screw extension, use "Never Freeze" by Snap-On, or equal, and apply liberally to the thread surfaces.



# **ROUTINE JACK MAINTENANCE BULLETIN**

RJM 116

1 OF 1

**TO PROVIDE COMPLETE INFORMATION ON SERVICING  
ColumbusJACK/REGENT QUALITY GROUND HANDLING EQUIPMENT**

## **SCREW EXTENSION USAGE**

When using a jack that has a screw extension, it is advisable that the screw extension be extended as far as possible, and still have the jack roll under the jacking point. If the screw extension is not properly extended, the aircraft may not be able to be raised to the desired height.

A periodic check should be made to the screw extension to ensure that the stop is operating properly to prevent over-extension. To do this, rotate the screw extension counterclockwise until it stops rotating. **DO NOT FORCE THE SCREW EXTENSION BEYOND THIS POINT**. If the screw extension does not stop rotating, remove it and repair the stop. **DO NOT USE WITHOUT THE SCREW EXTENSION STOP WORKING PROPERLY, AS THE JACK COULD FAIL WITH AN OVER-EXTENDED SCREW EXTENSION.**



# **ROUTINE JACK MAINTENANCE BULLETIN**

RJM 147

1 OF 1

## **TO PROVIDE COMPLETE INFORMATION ON SERVICING ColumbusJACK/REGENT QUALITY GROUND HANDLING EQUIPMENT**

### **RECOMMENDED ANNUAL JACK CERTIFICATION PROCEDURE**

The following Recommended Annual Jack Certification Procedure is provided as a guide to insure that hydraulic aircraft jacks are always certified for operation. An annual time interval is a general recommendation only. The actual interval used should include factors for the climatic conditions in which the equipment is stored and the frequency of equipment use. Recommendations for Suggested Preventative Maintenance can be found in RJM 170.

- 1) With no external load applied to the jack, fully close release valve and fully extend ram(s) to verify function and the absence of external hydraulic leakage.

**WARNING: DO NOT APPLY PRESSURE AGAINST INTERNAL RAM STOP(S).**

- 2) Open release valve and verify ram(s) retract fully.
- 3) Position jack under jack tester.

Note: For tripod jacks, all leg extensions should be installed on the jack.

- 4) Close release valve, and extend ram(s):
  - a) Single Stage Cylinder - Extend ram at least 2 inches.
  - b) Multi-Stage Cylinder - Fully extend all but the last stage. Extend the last stage at least 2 inches.
- 5) Pressurize the jack against the jack tester. Using a calibrated pressure gauge on either the jack or the jack tester, monitor the pressure until the capacity (operating pressure) of the jack is reached.
- 6) With the jack pressurized against the jack tester, hold in this position for 3 minutes. Verify that the jack pressure has not decreased, indicating internal leakage.
- 7) Open the release valve to relieve jack pressure against the jack tester.
- 8) Set the safety relief valve per jack operation and maintenance manual.

06/18/13



# ROUTINE JACK MAINTENANCE BULLETIN

RJM 149

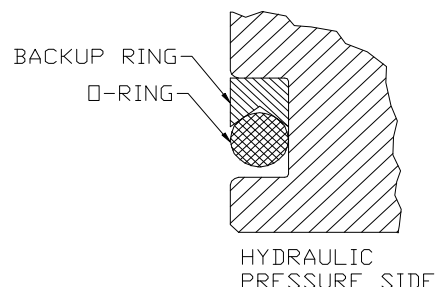
1 OF 1

## TO PROVIDE COMPLETE INFORMATION ON SERVICING ColumbusJACK/REGENT QUALITY GROUND HANDLING EQUIPMENT

### TEFLON BACKUP RING INSTALLATION PROCEDURE

When installing new Teflon backup rings on a ram or piston of any jack model, the following procedure should be observed to ensure correct installation of the ring. When installing a new backup ring, the corresponding o-ring should always be replaced also.

- 1) Cut existing o-ring and Teflon backup ring.
- 2) Clean and visually inspect the groove in the ram or piston for any nicks, scratches or score marks, which could cut the o-ring and backup ring during installation.
- 3) Check to ensure backup ring is clean and not damaged.
- 4) Set backup ring on a flat metal surface.
- 5) Using a propane torch, heat backup ring in a circular motion until backup ring is equally softened and pliable or flexible.
- 6) Carefully pick-up the **HOT** Teflon backup ring off the **HOT** metal plate and stretch the ring enough to fit over the end of the ram (piston). **NOTE: Make sure the "V" cup portion of the backup ring will face the o-ring.** (See figure)
- 7) If backup ring does not return to size after cooling, re-heat backup ring while on the part, and cool quickly with a cold, wet towel or rag.
- 8) Check to ensure o-ring is clean and not damaged.
- 9) Carefully stretch o-ring over the end of the ram (piston). Ensure that the o-ring and the "V" cup of the backup ring are facing each other. (See figure)





# **ROUTINE JACK MAINTENANCE BULLETIN**

RJM 170

1 OF 1

## **TO PROVIDE COMPLETE INFORMATION ON SERVICING ColumbusJACK/REGENT QUALITY GROUND HANDLING EQUIPMENT**

### **SUGGESTED PREVENTATIVE MAINTENANCE FOR JACKS**

The following Preventative Maintenance Schedule is provided as a guide to insure that hydraulic aircraft jacks are always ready for operation. The time intervals listed are a general recommendation only. The actual interval used should include factors for the climatic conditions in which the equipment is stored and the frequency of equipment use.

#### Prior to Operation

1. Inspect for damaged or missing components.
2. Inspect for oil leakage and proper fluid level.
3. Inspect screw extension for mechanical stop.
4. Inspect all snap rings for engagement into grooves.
5. Inspect jack adapter for damage.

#### Every 6 Months

1. Inspect for worn snap ring grooves.
2. Change hydraulic filters if applicable.
3. If jack has not been used regularly, cycle jack without load.
4. Grease all lube fittings with a general purpose grease.
5. Wipe down ram(s) and screw extension with hydraulic oil.

#### Every 12 Months

1. Calibrate pressure gauge if applicable per RJM 173.
2. Perform "Recommended Annual Jack Certification Procedure" per RJM 147.



# **ROUTINE JACK MAINTENANCE BULLETIN**

RJM 171

1 OF 1

**TO PROVIDE COMPLETE INFORMATION ON SERVICING  
ColumbusJACK/REGENT QUALITY GROUND HANDLING EQUIPMENT**

## **RECOMMENDED HYDRAULIC OILS**

The following hydraulic oils are recommended for use in all ColumbusJACK/Regent products, though any oil compatible with Buna-N seals may be used. Proper oil level should be .5 to 1 inch below the fill port when all rams are collapsed.

Exxon/Mobil Aero HF (MIL-5606)  
Exxon/Mobil DTE-11, -15  
NATO Code No. H-538 (MIL-PRF-87257)  
Phillips 66 X/C 5606  
Royco 783 (Anderol) (MIL-PRF-6083)  
Shell Tellus 10, 15  
Shell Aerofluid 31 (MIL-PRF-83282)  
Shell Aerofluid 41 (MIL-PRF-5606)  
Texaco Regal Oil R & O (32, 46, 100, 150, 220, 320, 460)