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**IMPORTANT:** Read complete manual before setting up and operating pin and bushing press.

**CAUTION:** OPERATOR MUST WEAR SAFETY GLASSES WHEN OPERATING PRESS. OPERATOR MUST WEAR SAFETY GLASSES AND EAR PROTECTORS WHEN OPERATING IMPACT WRENCH.

## A. INSTALLATION

The pin and bushing press is shipped broken down into two (2) major pieces, main frame and power conveyor. The other major components are the conveyor sections and the impact wrench along with all the mounting hardware (optional).

### I. Track Press

- a. Locate main frame on a level concrete floor. See Figure X for press overall dimensions. For dirt floors, use concrete pads under the press mounting pads. Bolt press to floor with 1" bolts (minimum diameter), and washers. Use heavy duty expansion bolt anchors.

Note: It is recommended that press be bolted to floor. If press is not bolted down, it will slide on the floor when winching large tracks to the conveyor.

- b. Place power conveyor on conveyor support, bolt to rear of press. Fasten to press and locate conveyor stand; bolt stand to floor with 1/2" bolts and washers. Connect lift cylinder to power conveyor. See Figure IV.

### II. Conveyor System (Optional) and Pad Lifter (Optional)

- a. Locate the horizontal conveyor sections with reference to the power conveyor on the conveyor stands. Bolt together and to stands. Fasten stands to floor with 1/2" bolts and washers. See Figure IV.
- b. Locate and fasten incline conveyor.
- c. Assemble Pad Lifter per Figure IV.

### III. Impact Wrench (Optional)

The impact wrench is shipped broken down as shown in Figure VI.

- a. Slide the carriage assembly onto the side rails. Move this assembly the full length of the conveyor to insure free movement. If the wheels bind or are too loose, adjust the distance between them by addition or deletion of spacers.
- b. Turn adjusting nut onto the carriage post and place bearing in circular groove. Place impact wrench on post. Balance of impact wrench can be adjusted by loosening bolts on pivot mount, shifting wrench frame and retightening bolts.

### IV. Hydraulic System

- a. Connect two (2) hoses to hydraulic motor on winch, at end of power conveyor.
- b. Connect two (2) hoses to hydraulic lift cylinder for pad lifter. Hoses to be connected as marked.

- c. Fill hydraulic reservoir with 70 gallons of hydraulic fluid. Use a premium quality hydraulic oil DTE light or equivalent:

150 SSU at 100° F

50 SSU at 210° F

with anti-wear and anti-foaming additives.

## V. Electrical

**WARNING: VERIFY THAT ALL POWER CABLES ARE DISCONNECTED AND THAT ALL SWITCHES ARE OFF PRIOR TO MAKING ANY ELECTRICAL CONNECTIONS.**

- a. Connect cables from electrical box on hydraulic power supply to conveyor drive motor and cord reel. See Figure II.
- b. Check power requirements on press against power availability to prevent damage to press electrical circuit. Connect press to AC power. Customer to furnish a proper sized fuseable disconnect.
- c. Connect impact wrench motor cable to AC power. Customer to furnish a proper sized fuseable disconnect. Locate and assemble the electrical cable carrier per Figure VII.

## VI. Start Up

### I. Electrical

- a. Check that all hydraulic connections are tight and that there are not any kinks in the hydraulic hoses.
- b. Check hydraulic reservoir to verify it is full of oil.
- c. Check that control valves are in the neutral position, center position. Turn ram force control valve counterclockwise to run system at minimum pressure, approximately 100 psi.
- d. BR330S - Before running the press, check the rotational direction of the hydraulic pump unit. The motor shall rotate in the direction shown by this arrow, located in red on the mounting base. To check it, jog the motor by pressing the START and STOP pushbuttons in rapid succession while someone watches the motor fan. If the motor rotates in the wrong direction, reverse the power leads. The low pressure pump may be run in either direction.
- e. BR250S - The high-low pressure pumps may be run in either direction. Check rotation of impact wrench. When handle is rotated clockwise, impact wrench is loosening bolts; when rotated counterclockwise, wrench is tightening bolts. If rotation is reversed, disconnect power and interchange leads. Recheck.

## 2. Hydraulic

Note: All air must be removed from the hydraulic circuit before the press is operated. A failure to remove air can result in a shockwave sufficient to damage hydraulic components. Any time a line is removed or the oil level falls below the suction filters, air will enter the circuit and it must be purged out.

- a. Start the press pump and let it run one (1) hour. Slowly extend and retract the right ram a couple of times. Repeat with the left ram. Place rams in retracted position and turn off press. Check hydraulic reservoir oil level. Oil should be one-half way between lines on level gauge. Add oil if required.
- b. Remove cover from hydraulic power supply. Start hydraulic press. Check all fittings for leaks and tighten if necessary. Advance both rams against a stationary load, such as a large, solid steel bar with ends parallel and a minimum of 15 square inches for the BR250S or 24 square inches for the BR330S. While holding one ram control valve handle in the advance position, turn ram force valve clockwise to increase pressure. At approximately 1000 psi increments, up to and including 5300 psi for BR30S and 6300 psi for BR250S, check all fittings for leaks. Tighten fittings if necessary. Recheck and retract rams. Check winch fittings by operating unit a few minutes.

Note: All hydraulic fittings are leaktight when press leaves the Centurion Industries, Inc. plant, but vibrations from shipping may cause them to loosen.

### d. Operating range

BR250S	250 Tons per Ram (500,000 lbs.) at 6300 psig
BR 300S	330 Tons per Ram (600,000 lbs.) at 5300 psig

## B. OPERATION

### I. Nomenclature

#### I. Pin and Bushing Press

- a. Operating Controls:  
Stop (Pushbutton) - De-energizes electrical circuit, hydraulic pump stops.

Warning: Hydraulic circuit from control levers to the rams is a closed system; handles must be shifted through all positions to relieve pressure.

- Start (Pushbutton) - Energizes electrical circuit, hydraulic pump starts.
- Right Ram Lever - Controls right ram. Lever shifted to the right, retracts ram; to the left, extends ram.
- Left Ram Lever - Controls left ram. Lever shifted to the right extends ram; to the left, retracts ram.
- Ram Force Control - Adjusts the pressure to the rams.
- Pressure Gauge - Indicates ram pressure in psi.
- Index Lift Up (Push Button) - Energizes solenoid valve and lifts conveyor.
- Index Lift - Down (Push Button) - Energizes solenoid valve and returns conveyor to down position.
- Manual Index - Forward (Push Button) - Advances track to saddle for disassembly.
- Manual Index - Reverse (Push Button) - Pulls track from saddle for assembly.
- Pad Lift - Up (Push Button) - Activates pad lifter, locks in up position. (Optional)
- Pad Lift - Down (Push Button) - Returns pads to down position. (Optional)
- Clamp (Push Button) - Holds track in saddle. (Optional)
- Unclamp (Push Button) - Returns clamp bar to up position.
- Selector Switch - (Optional)  
Disassembly - Advance track for disassembly.  
Assembly - Retracts track when assembling.
- Auto Switch - (Push Button) - Lifts track and indexes for next operation. Mode determined by selector switch.
- b. Clutch Control Lever - Located on the winch drum. Disengages the winch drum from the conveyor drive.
- c. Tooling Head - Mounts the track tooling to the rams.

## 2. Impact Wrench (Optional) Figure VI

- a. Control Handle - Controls direction of impact; clockwise rotation, disassembly or loosening of bolts; counterclockwise rotation, assembly or tightening of bolts.
- b. Wrench Handle - Use to position wrench and to apply downward pressure on the bolts.
- c. Adjusting Nut - Height adjusting nut permits raising and lowering of the wrench to insure that the socket fits the bolt head squarely. To insure that this accomplished, the frame of the wrench should be level at all times.

## II. Operating Procedure

### 1. Press Set Up and Track Positioning

- a. Install the correct disassembly tooling set and saddle.
- b. Position the track within reach of the winch cable, and in line with the conveyor, to avoid unnecessary handling.
- c. Check that all control levers are in the neutral position.
- d. Start the press, allow approximately five (5) minutes warm up time before operating.
- e. Disengage winch clutch, draw cable over guide roller. Pull out to track at end of conveyor.
- f. Attach winch cable to the track, thru third or fourth link, with a rod through the links.

**CAUTION: CHECK THAT WINCH CABLE IS SECURELY ATTACHED TO TRACK AND CONVEYOR IS CLEAR OF OBSTRUCTIONS.**

- g. Engage winch clutch, energize conveyor and winch drive. Pull track full length of roller conveyor. DO NOT REMOVE WINCH CABLE.
- h. Remove track shoes. See Section B.II.5.
- i. Use winch to pull track to power conveyor. Detach winch cable from track and wind on drum, attaching loop to bracket. Disengage winch clutch lever.

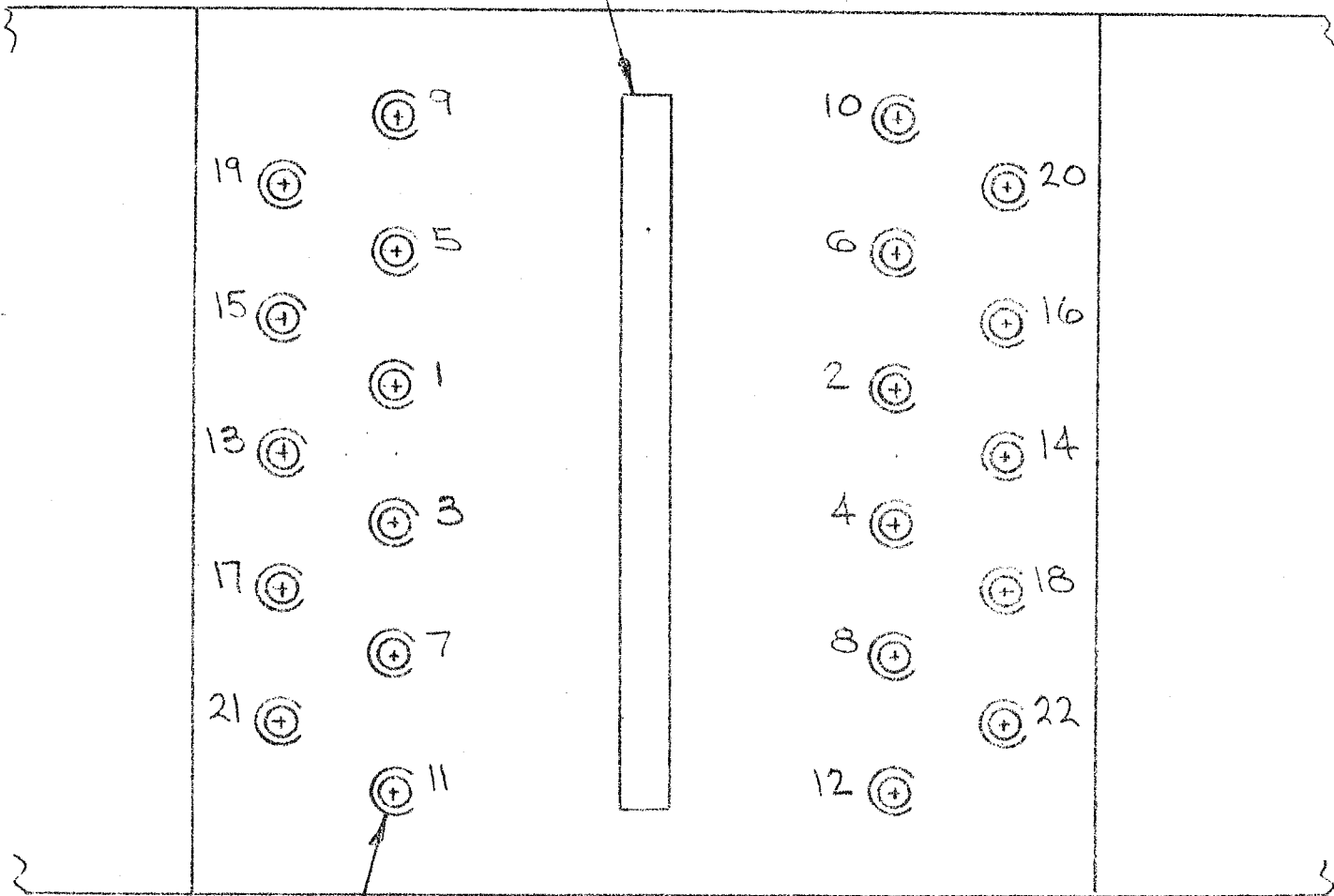
### 2. Disassembly Without Track Shoes

- a. Adjust height of tooling, with set screws, so that tooling is in line with pin and bushing. Place selector switch in Auto mode (optional).



NOTE :

KEY IS USED TO ALIGN SADDLE ONLY. DO NOT USE KEY TO LOCK SADDLE IN PLACE.



BOLT TORQUE SEQUENCE

TIGHTEN ALL BOLTS IN SEQUENCE SHOWN

STEP 1. TIGHTEN ALL BOLTS TO 10 FT-LBS

2. RETIGHTEN ALL BOLTS TO 150 FT-LBS

3. IMPACT ALL BOLTS TO 600 FT-LBS

SADDLE CLAMPING PROCEDURE

- b. Insert master bushing spacer into the pin sleeve to remove the master bushing.

CAUTION: TO PROTECT THE LIFE OF THE TOOLING, USE ONLY THE REQUIRED PRESSURE TO OBTAIN THE DESIRED RESULT.

Note: See manufacturer's manual for track rebuilding criteria.

- b. Extend the right ram to remove the master bushing and pin, retract the ram. This action will carry the right side link on the pins.
- c. Extend the left ram to remove the bushing and pin, retract the ram.
- d. Remove and store the disassembled parts from the left and right ram pins and the saddle.
- e. Remove master bushing spacers from the pin sleeves.
- f. Lift conveyor; advance track, with power conveyor, one link and lower conveyor. Disassemble track. Repeat steps b through d and Step f until track is completely disassembled.

### 3. Assembly Without Track Shoes

- a. Install the correct assembly tooling set, adjust, and place selector switch in assembly.
- b. Position track pin and bushing in saddle nearest operator. Place right and left side links over the locating pins on the tooling.
- c. Extend the right ram until the side link contacts the saddle, the ram must remain extended, return control lever to the neutral position.
- d. Extend the left ram until the bushing is in contact with both sidelink seats. Extend left and rim ram until the track pad holes are aligned. Check hole location with the track gauge plate.  
Retract rams.

#### CAUTION: SEALED AND LUBRICATED TRACK

It is important to adjust the track press pressure to the correct assembly force for the track being assembled. There must be enough force to install the links so the thrust rings are pushed against the bushing ends at the bottom of the link counterbore to insure correct height for the seal assembly. Use of an assembly force higher than the maximum force

given in the chart that follows can cause damage to the thrust rings and seals.

See manufacturer's manual for proper track press pressure.

- e. Lift conveyor, slide back until bushing drops into rear saddle. Lower conveyor. After a few lines are assembled, depending on size, the power conveyor will pull the track back.
- f. Repeat steps b, c, d, and e, until entire track has been assembled.
- g. Insert the master bushing spacers into the right and left bushing pins to install the master bushing.
- h. Assemble track shoes.

#### 4. Disassembly With Track Shoes

On some types of tracks the grouser interlocks laterally with the link assembly behind it. The BR200/BR300 is designed to allow disassembly or assembly of track with shoes attached to one side link of each track segment.

Note: The following procedure is based on unbolting the track shoe from the left side link. The right side may also be used by reversing right and left pressing order.

- a. Insert master bushing spacer into the pin sleeve to remove the master bushing. (See 2.a.)

**CAUTION: TO PROTECT THE LIFE OF THE TOOLING, USE ONLY THE REQUIRED PRESSURE TO OBTAIN THE DESIRED RESULT.**

- b. Extend the right ram to remove the master bushing and pin, retract the ram. Lift out the right link and track shoe assembly.
- c. Extend the left ram to remove the bushing and pin, retract ram. Remove the link and bushing.
- d. Remove master bushing spacers from the pin sleeves.
- e. Lift conveyor, advance track one link and lower conveyor. Disassemble track. Repeat steps until track is completely disassembled.

#### 5. Assembly With Track Shoes

The height of the track alignment arms for assembly with track shoes is very important.

# TRACK TOOL SET A60-1273

REQ	DESCRIPTION	REQ	DESCRIPTION
2	TOOL MOUNT BASE	2	BUSHING INSERT SPRING
2	PIN INSERT - DISASS'Y	2	PIN INSERT SPRING
2	BUSHING INSERT - DISASS'Y	6	SET SCREW, BUSHING
2	MASTER BUSHING SPACER	6	SET SCREW, PIN
2	BUSHING TOOL HOLDER, ASS'Y	4	SOC. HD. CAP SCREW
2	BUSHING INSERT, ASS'Y	1	TRACK GAGE
2	PIN TOOL HOLDER, ASS'Y	1	SHIM SET
2	PIN INSERT, ASS'Y	1	TRACK PITCH PLATE

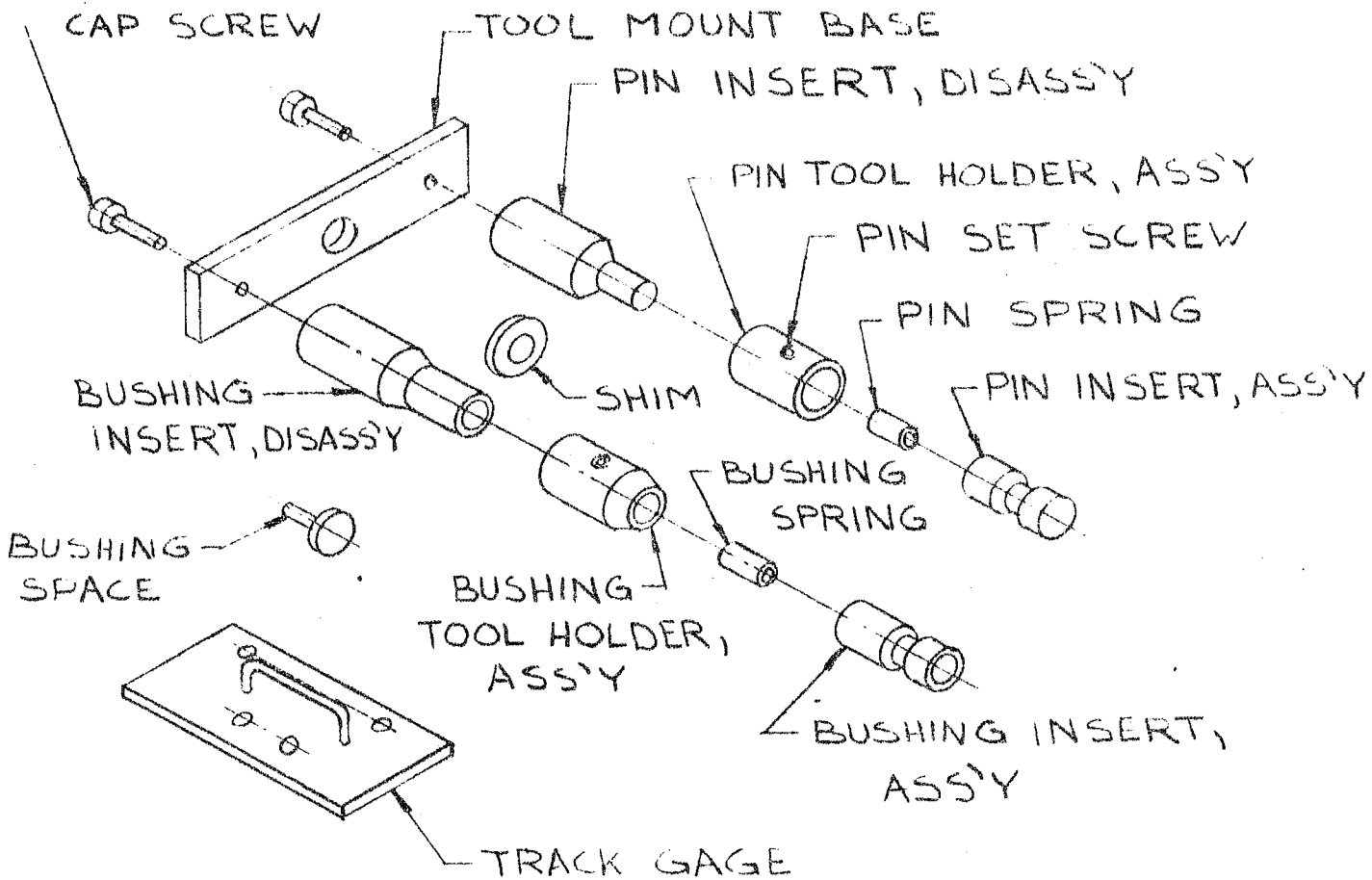


FIGURE V

- a. Install the correct assembly tooling set and saddle. (See 3.a.)
- b. Position track pin and bushing in saddle nearest operator and the left link over the locating pins on the tooling. The right link, with track shoe attached, on the right track alignment arm, against the saddle side, pushing the pin and bushing to the left.
- c. Extend the right ram until the sleeve presses the right link against the saddle. Ram must remain extended, return control lever to neutral position.
- d. Extend the left ram, press both rams until the left hand track shoe bolts can be hand started into the side link.

**CAUTION: SEAL AND LUBRICATED TRACK**

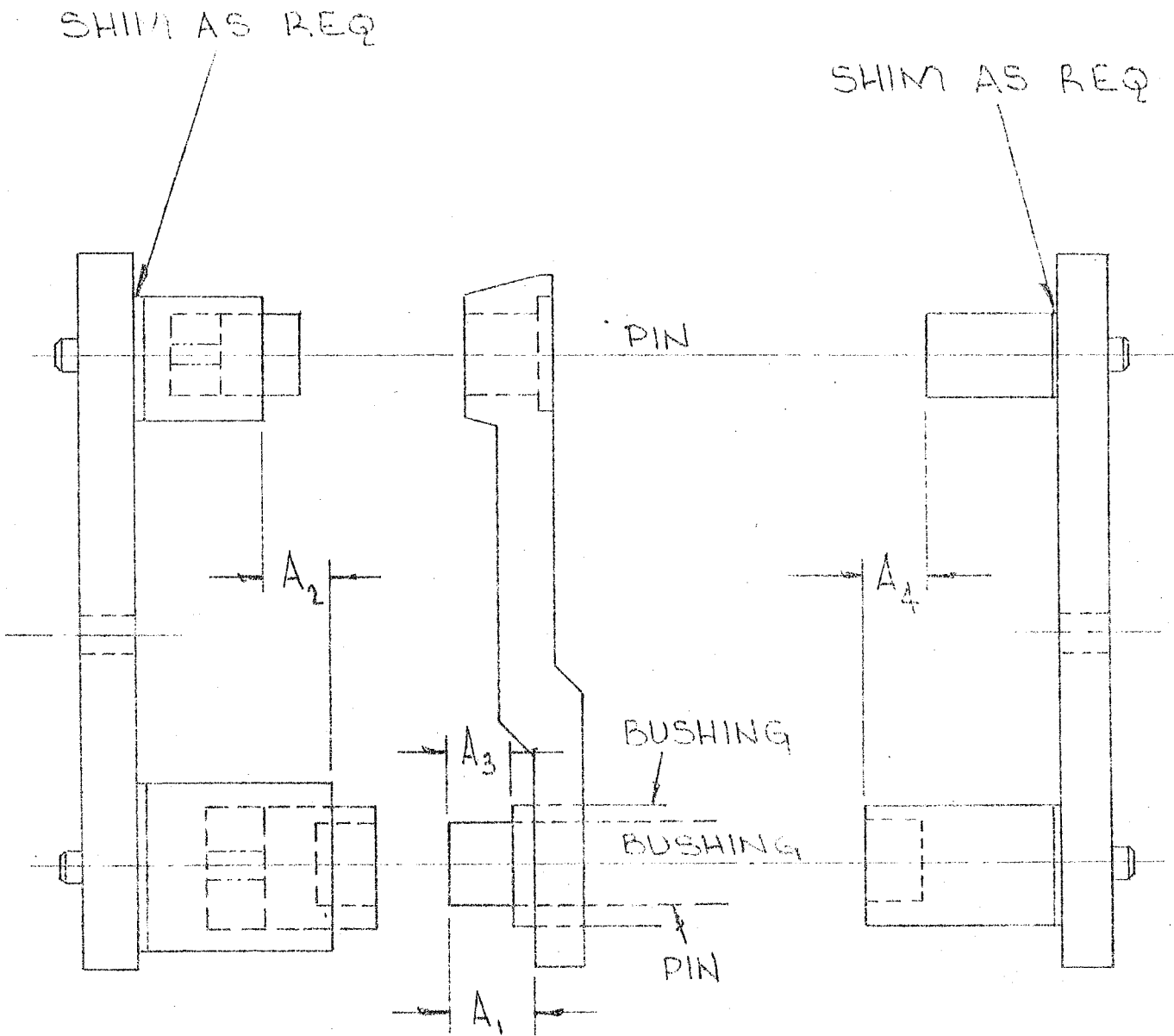
It is important to adjust the track press pressure to the correct assembly force for the track being assembled. There must be enough force to install the links so the thrust rings are pushed against the bushing ends at the bottom of the link counterbore, to insure correct height for the seal assembly. Use of an assembly force higher than the maximum force given in the chart that follows can cause damage to the thrust rings and seals.

See manufacturer's manual for proper track press pressure.

- e. Lift conveyor, slide back until bushing drops into rear saddle. Lower conveyor. After a few links are assembled, depending on size, the power conveyor will pull the track back.
- f. Repeat steps b, c, d, and e until entire track has been assembled.
- g. Insert the master bushing spacers into the right and left bushing pins to install the master bushing.
- h. Tighten track shoe bolts.

6. Assembly Tooling Shims

Centurion track assembly and disassembly tooling is designed to fit new track. The following procedure is used to adjust pressing dimension to allow for track wear. See Figure IX. On new track dimensions  $A_1$  and  $A_2$  are equal. Wear is encountered on the bushing face on the side links, causing dimension  $A_1$  to be greater than  $A_2$ . To correct for this wear, shims are inserted between the mounting plate and the plunger body to make  $A_2$  equal to  $A_1$ . This will assure proper alignment to pin, bushing and side links. At times, shims may be required between pin insert base and pin tool holders.



ASSEMBLY

DISASSEMBLY

FIGURE IX TOOLING

7. Impact Wrench Socket Alignment

Locate socket so that it fits over and square with the track pad bolt head/nut. If socket does not fit bolt head, check size of bolt and socket. If bolt head has been damaged or deformed, it will be necessary to re-size head. This can be done with an old socket of proper size and a hammer. Place socket on head and hit with hammer or the head can be shaped with a chisel.

8. Impact Wrench Track Shoe Removal

Place socket on bolt head. Turn on unit in proper direction.

Note: Do not allow impacting to continue for more than 15 seconds unless the head is turning. If the nut fails to start in this length of time, stop the motor, reverse the direction of rotation and allow the wrench to impact on the nut for about 2 seconds. When the wrench is again operated in the proper direction, the frozen nut usually will break loose and will turn.

Note: The amount of torque is governed by the time of impacting. Impacting continuously for more than 15 seconds at a time on a bolt, places a severe strain on the impact wrench.

9. Impact Wrench Track Shoe Assembly

Insert bolt through track pad and link, turn nut on hand tight. Tighten bolt and nut with impact wrench to specified torque. After tightening, check with a torque wrench. With a little practice, the operator will soon determine the amount of impacting required to obtain the proper torque of the bolt and nut.

10. Pad Lift

Used to hold pads above track while rebuilding. Pads will align with side plates, when lowered on re-built track.

C. MAINTENANCE

I. Pin and Bushing Press

I. Hydraulic System

- a. The hydraulic system is shown schematically in Figure III. The track press features an open-center control and dual pump system. The open center, dual pump control, allows the system to deliver low pressure, high volume flow for the rapid traverse of the rams. High pressure is used only as required by the rams for disassembly and assembly of the track. When the track press is in the idle period, control valves in the open or off position, there is a minimum of heat generated and electrical power used.

**CAUTION:** Always bleed the hydraulic system if the fluid has been exposed to air in any way. Serious damage may otherwise occur.

b. Hydraulic Fluid Replacement

Due to the build-up of contamination in the hydraulic system, the fluid must be changed periodically to prevent clogging and malfunction of the components. Replace the fluid after the first four (4) months of operation, and every eight (8) months thereafter.

The hydraulic tank holds approximately 70 gallons of fluid. Remove drain plug at end of tank and drain into a suitable container. Dispose of used fluid in approved disposal sites.

Fluid Replacement Procedure:

1. Retract rams.
2. Disconnect electrical power.
3. Open fill cap.
4. Drain tank.

Note: Do not operate equipment while draining tank.

5. Replace filter.
6. Fill tank with proper hydraulic fluid. See Section A.VI.b.
7. Connect electrical power and bleed system.

c. Return Line Filter

Replace hydraulic fluid filter after first 100 hours of operation and every 500 hours of operation thereafter. Filter operation can be checked by observing pressure gauge that is mounted on filter frame.

2. Lubrication (Figure I, Sheet I)

- a. Guide roller bearing, located on the power conveyor, should be greased every twelve (12) weeks with a Lithium based grease.
- b. Drive chain and bearings do not have to be greased. The drive chain is a self-lubricating chain, while the bearings are greased at the factory for life.
- c. Pad lifter axle to be greased every twelve (12) weeks with a



Lithium based grease.

3. Electrical (Figure II)

The electrical system for the press consists of a start and stop switch, control push buttons, solenoid valve coils, motor starter and the fuseable disconnect, furnished by the customer. Most failures in the electrical circuit can be traced to an open fuse caused by a momentary overload.

4. Cleaning

The external surfaces of the press and the floor should be kept clean. The hydraulic components, lines, valves and pump, should be kept clean to minimize the possibility of contaminants entering the system when maintenance is performed. Clean hydraulic connections will also simplify inspection for hydraulic leaks.

5. Winch

For information on the winch hydraulic motor, see section on Hydraulics, C.I.I.

- a. Inspect cable weekly. If cable shows signs of fraying, remove frayed end or replace entire cable.

CAUTION: A frayed, cut, or otherwise damaged cable is not to be used. The winch has a pulling capacity of 8000 lbs. and a broken cable can cause serious injury or death.

- b. Check oil level in winch gear box weekly, adding oil if required. Drain gear box every six (6) months, refill with gear lubricant EP 90.
- c. Grease clutch bearing monthly with a Lithium based grease.

6. Power Conveyor

- a. Conveyor drive chain does not require any lubrication as it is self-lubricated.
- b. Grease drive roll and idler bearings same as guide roller bearings.

II. Impact Wrench (Optional)

I. Belt Tensioning

Belts must be kept at a proper tension during wrench operation. After first week of operation, belts are to be checked and re-tightened using the following procedure:

NOTE: See Figure VI for location and description of components.

- a. Remove wrench head cover and motor guard, inspect belts.
- b. Loosen motor adjustment bolts and idler assembly hold-down bolts.
- c. Tension short belt first (impactor to idler), tighten idler assembly hold-down bolts.

NOTE: Belts are adjusted by tightening bolt which moves the motor mounting back.

- d. Tension long belt (idler to motor), tighten motor adjustment bolts.

IMPORTANT: After initial tensioning of belts, they should be inspected at three (3) month intervals and tensioned if necessary.

## 2. Lubrication

### a. Impact Wrench

1. Proper lubrication is of prime importance for trouble free service and efficiency of this wrench. After each four (4) hours of operation, or as experience indicates, insert about 1-1/2 ounces (44.4 ml) of Centurion Impact Grease #57128 through the grease fitting, Item 7, Figure II. A substitute for 57128 is not recommended, but in an emergency, a good sticky, semi-fluid gear grease may be used. Use grease sparingly. Excessive lubrication will retard the action of the tool.
2. IMPORTANT: Occasionally remove the impact unit, as described in the next section, for lubrication inspection. Check, and if necessary, coat with Centurion Impact Grease 57128, the jaws of both hammer and anvil, the pilot of the arbor that enters the anvil, and the shank of the anvil that takes its bearing in the hammer case. Apply grease evenly and sparingly. An excessive accumulation of grease in the hammer case will result in sluggish operation. Insert about 1/2 teaspoonful of 57128 grease into each of the two holes in the wall of the hammer, working it back into the cam grooves.

### b. Carriage and Drive

All bearings are sealed and require no lubrication.

## 3. Hammer Unit Maintenance

- a. Remove impact wrench from housing by removing bolts and

washers, Figure VII.

- b. Disassembly - withdraw the hammer complete 058147 and the anvil 058150 from the hammer case 058148, Figure IX. Lift the anvil 058150 and the anvil driver 058149 from the arbor 058151. After washing as much grease as possible from the hammer assembly, set it upright on the table of an arbor press so that the rear face of the ball cam 058142 is supported. Slide a suitable sleeve (2" pipe, 2-1/2" long) over the pilot of the arbor 058151 and seat it on the top of the hammer jaws. Press on the sleeve, forcing the hammer over the ball cam until the cam balls 058145 emerge from the holes in the hammer wall. Release the press pressure and lift off the hammer 058147, arbor 058151 and hammer spring 058146. Slide the hammer spring thrust bearing 058144 and the friction drive washer 058143 from within the ball cam.

1. Hammer Case - (Refer to section drawing) Figure IX

The hammer case 058148, which houses the ball-and-cam type impact unit, is the largest external aluminum casting. Its front bore, through which the anvil 058150 protrudes, is fitted with a steel hammer case bushing 058152, which is renewable.

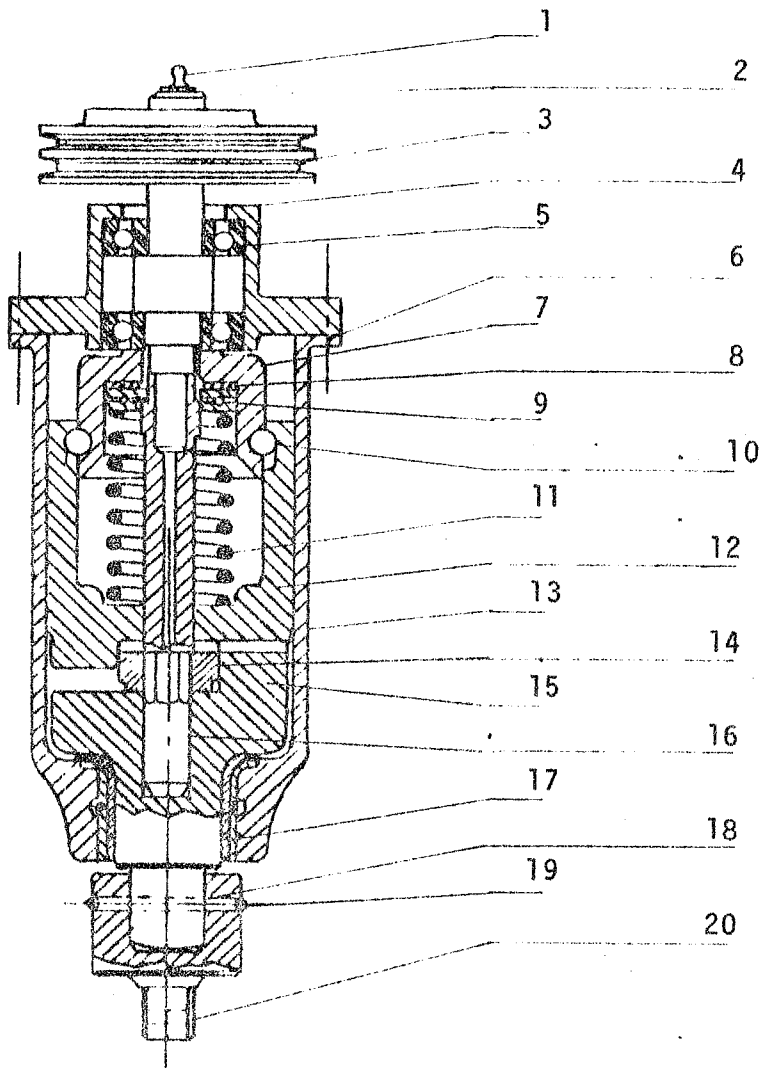
2. Bushing Renewal

Stand the hammer case upright on its large open face on the table of an arbor press. Place a suitable arbor, preferable one that will pilot in the bushing bore, against the top face of the bushing and press the bushing from the case. Support the front end of the hammer case on the table of an arbor press in such a manner that the support will not interfere with the front end of the bushing, should it protrude slightly from the case when installed to full depth. Place the bushing within the hammer case and start the small end of the bushing squarely into the small bore at the front of the case. Press the bushing in until its flange seats against the should in the case.

CAUTION: THE BUSHING IS PRESSED INTO A STEEL INSERT WHICH IS CAST INTO THE HAMMER CASE. DO NOT PRESS ON THE INSERT; PRESS ONLY ON THE BUSHING.

c. Assembly

Place the friction drive washer 058143 in the ball cam 058142. Arrange the three parts of the hammer spring thrust bearing 058144 so that the retainer and balls are between the grooved faces of the front and rear races. Lubricate the bearing with #57128 Centurion Impact Grease and slide it into the ball cam so that the race containing the hexagon hole



ITEM	DESCRIPTION	PART NO.	ITEM	DESCRIPTION	PART NO.
1	Grease Fitting	031-102	11	Hammer Spring	058-146
2	Shaft	B49-844	12	Hammer	058-147
3	Pulley & Bushing	062-135	13	Hammer Case	058-148
4	Adaptor	C49-441	14	Anvil Driver	058-149
5	Bearing	025-237	15	Anvil	058-150
6	Gasket	058-141	16	Arbor	058-151
7	Ball Cam	058-142	17	Case Bushing	058-152
8	Friction Washer	058-143	18	Lock Pin	058-124
9	Thrust Bearing	058-144	19	Lock Ring	058-123
10	Cam Ball	058-145	20	Adapter	058-122

FIGURE VII IMPACT HEAD

enters the ball cam first. Place the ball cam, containing the washer and bearing, on the table of an arbor press. Insert the arbor 058151 into the cam, passing its hexagon end through the bearing bore until it engages the hexagon hole in the rear race. Slip the hammer spring 058146 down over the pilot end of the arbor, seating it on the front race of the bearing. Hold the hammer 058147, jaw end up, align the diametrically opposite holes in the hammer wall with the points of the cam grooves in the ball cam and slide it down over the arbor and ball cam until it rests on the end of the spring. Place a suitable sleeve (2" pipe, 2-1/2" long) over the protruding end of the arbor and against the jaw end of the hammer. Press on the sleeve, forcing the hammer down over the ball cam until a cam ball 058145 can be entered into each cam groove through the holes in the hammer wall. Enter one ball in each hole. With the thumb and forefinger, cover the holes in the hammer to prevent the balls from dropping out, and slowly release the press pressure. The cam balls will hold the parts together as a unit. Remove it from the press and slide the anvil driver 058149, lug end first, onto the pilot of the arbor that protrudes from the front of the hammer. Make certain that the rear hexagon section of the arbor is entered in the hexagon hole in the hammer spring thrust bearing rear race and kept in engagement until the Impact Wrench is completely assembled. If the arbor can be rotated with the fingers, the parts are not engaged. Enter the pilot of the arbor 058151 into the bore of the anvil 058150 making sure that the jaws of the anvil do not seat against the ends of the anvil driver lugs, but will contact the sides of the lugs when rotated.

d. Installation

Check shaft and bearings, Figure VIII. Lightly grease shaft. Slide impact wrench on shaft and bolt in place.

III. Conveyor System (Optional)

The conveyor system should not require any maintenance. The bearings in the rollers are lubricated for life.

IV. Tooling (Optional)

Visually inspect the pin and bushing tooling before use on a track. If they are damaged, bent or flared they should be replaced.

D. TOOLING

I. Pin and Bushing Press

1. Instruction

- a. Figure V illustrates the basic tooling used for the disassembly and assembly of track. The tooling components are identified

on the tooling chart, Section D.1.2.

- b. Each tooling adapter is mounted on the tooling head, and bolted into place. The pin side of the tooling adapter is always toward the conveyor.

E. SEALED AND LUBRICATED TRACK DISASSEMBLY AND ASSEMBLY PROCEDURE

- I. Follow manufacturer's procedure for disassembly and assembly of sealed and lubricated track.
- II. Seal Assembly
  - A. Adjust track press pressure to correct assembly force.  
DO NOT USE HIGHER PRESSURE OR SEALS CAN BE DAMAGED.

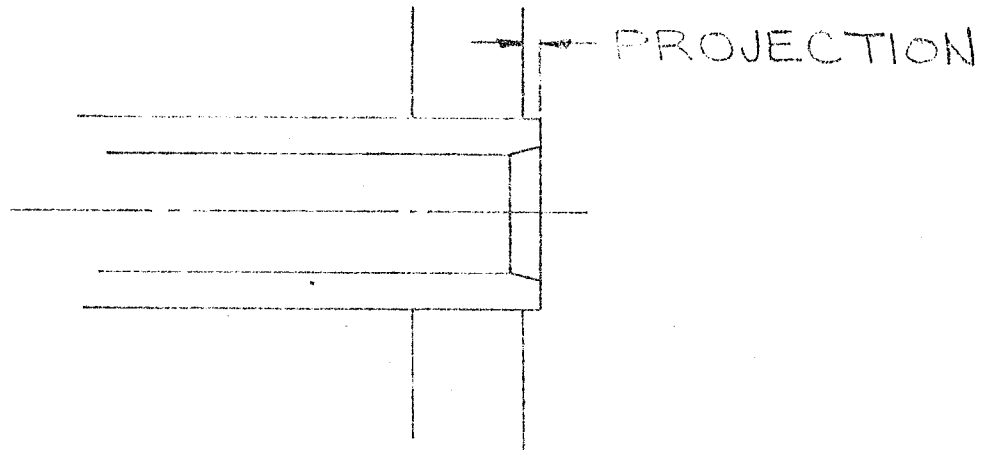
TRACK PRESS PRESSURE

	FORCE MAX. LBS.	CENTURION BR200/300
CAT D10	270,000	2390
CAT D9	250,000	2210
CAT D8,983	200,000	1770
CAT D7,977	150,000	1325
D6,955*	120,000	1060
D5,951,955#	100,000	885
D3,D4 931,941	72,000	635

\* S/N 85J10130-UP; # S/N 85J1-85J10129

- B. Position track pin and bushing in track press. The locating mark on the end of the pin must be toward the wear surface of the track link, down, and the worn surface of the bushing up, 180° from the mark.
- C. Clean end of bushing and put lubricating oil on end. Clean and remove burrs from thrust ring and install on track pin.
- D. Put liquid gasket on outer one-third of link track pin bore.
- E. Lubricate face of seals and remove dirt from the seal band area.  
DO NOT REMOVE HARDENED DIRT FROM OUTSIDE THE SEAL BAND.

- F. Position track links on press and assemble links to bushing.
- G. Check bushing projection beyond the link.



Machine	Projection, In.
CAT D10	.067 + .01
CAT D9	.127 + .01
CAT D8,983	.045 + .01
CAT D7,977	.071 + .01
CAT D6,*955	.071 + .01
CAT D5,951,#955	.074 + .01
CAT D4,941	.058 + .01
CAT D3,931	.048 + .01

\* S/N 85J10130-UP      #S/N 85J1-85J10129

#### IV. Seal Test and Lubrication

Test seal and lubricate per CENTURION MODEL STL SEAL TESTER AND LUBRICATOR MANUAL.

## CENTURION IMPACT WRENCH SOCKETS



<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>
058125	Socket, 3/4" x 1"	058130	Socket, 1-1/16" x 1"
058126	Socket, 13/16" x 1"	058131	Socket, 1-1/8" x 1"
058127	Socket, 7/8" x 1"	058139	Socket, 1-5/16" x 1"
058128	Socket, 15/16" x 1"	058140	Socket, 1-1/2" x 1-1/2"
058129	Socket, 1" x 1"		

\* Part No. 058140 has 1-1/2" drive. All other sockets have 1" drive.

### ATTACHMENTS

<u>PART NUMBER</u>	<u>DESCRIPTION</u>
058122	Adapter 1-1/2" Female to 1" Male
058123	Lock Ring - 1-1/2" Drive
058124	Lock Pin - 1-1/2" Drive
058132	Lock Ring - 1" Drive
058133	Lock Pin - 1" Drive



CENTURION MODEL 250S AND 330S PIN AND BUSHING PRESS

HYDRAULIC SYSTEM

**MAINTENANCE:** HYDRAULIC OIL SHOULD BE CHANGED EVERY SIX (6) MONTHS. CHECK FOR DIRT, MOISTURE AND DISCOLORATION OF OIL. IF THE SYSTEM HAS BECOME CONTAMINATED, THEN THE OIL MUST BE CHANGED.

THE FOLLOWING HYDRAULIC OILS ARE RECOMMENDED FOR OPERATIONS ABOVE 30 DEGREES F.:

TEXACO RANDO OIL HD-A  
CONOCO SUPER HYDRAULIC 15  
STANDARD RYKON NO. 15  
MOBILE DTE 23  
SINCLAIR DURO AW16  
GULF NO. 171

OR IF THE ABOVE HYDRAULIC OIL IS NOT AVAILABLE, USE A PREMIUM QUALITY HYDRAULIC OIL WITH:

150 SSU AT 100 DEGREES F.  
50 SSU AT 210 DEGREES F.

WITH ANTI-WEAR AND ANTI-FOAMING ADDITIVES.

THE HYDRAULIC SYSTEM HOLDS ABOUT 90 GALLIONS OF FLUID.

## DISASSEMBLY OF WINCH 1000, 1100, 1200 SERIES

1. Loosen set screw in end bearing collar. Turn collar counter-clockwise with punch to release it from bearing and shaft. Remove end housing assembly from drum shaft.
2. Remove retaining ring and drum from shaft. On clutch models remove phenolic friction block and spring from gear case.
3. 1000, 1100 SERIES: Drain oil from gear case. Remove hydraulic motor, thrust spacer, bearings and worm shaft from gear case.

1200 SERIES: Drain oil from gear case and brake housing. Remove hydraulic motor, thrust spacer and bearing from gear case. Remove brake housing cover, brake components and brake housing. Remove bearing, spacer and worm shaft from gear case. For brake assembly and adjustment see "ASSEMBLY INSTRUCTIONS - OIL COOLED ADJUSTABLE AUTOMATIC SAFETY BRAKE".

4. Remove gear case cover. Remove bronze gear and drum shaft as a unit being careful not to damage shaft seal.

NOTE: Bronze gear is press fit on shaft. DO NOT remove unless absolutely necessary.

Model number prefix (stamped in gear case cover) indicates model series and drum shaft size:

No prefix designates 1000 Series winch with 1-1/4" drum shaft.

Prefix "10" designates 1000 Series winch with 1-1/2" drum shaft.

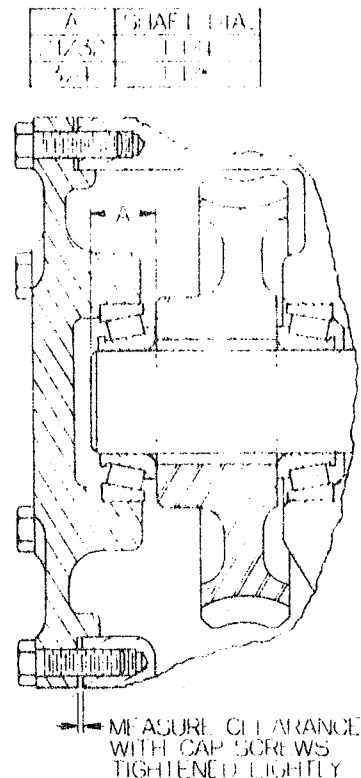
Prefix "27" designates 1000 Series winch with 1-1/2" drum shaft and old style 27:1 ratio gears.

Prefix "11" designates 1100 Series winch with 1-1/2" drum shaft.

Prefix "12" designates 1200 Series winch with 1-1/2" drum shaft.

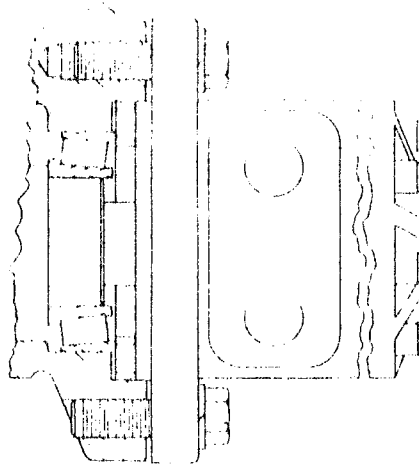
## ASSEMBLY OF WINCH 1000, 1100 SERIES

1. Clean gear case and all parts thoroughly.
2. If bronze gear has been removed from shaft, care should be used to press the gear onto the shaft squarely. Locate end of gear hub (the set screw side)  $21/32$ " from the shaft end on  $1-1/4$ " shaft models and  $3/4$ " on  $1-1/2$ " shaft models (Section A-A).



SECTION A-A

3. Install oil seal and bearings. Install drum shaft assembly into gear case carefully to prevent damage to the shaft seal.
4. Bolt cover to gear case without shim gaskets. Tighten the screws lightly and evenly. Measure clearance with a feeler gage (Section A-A) and remove cover. For proper bearing pre-load, install shim gaskets (red -  $.002$ "; blue -  $.005$ "; brown -  $.010$ ") as required with a thickness that is  $.003$ " to  $.005$ " less than the measurement. Re-bolt cover securely.
5. Install worm shaft. Be sure that the shaft end opposite the motor is seated properly in the bearing cone. Install bearing cone and cup on motor end being sure large end of bearing cone is seated against worm shoulder (Section B-B).
6. Place thrust spacer against bearing. Bolt motor to gear case without shim gaskets with cap screws and lock washers. Tighten the screws lightly and evenly. Measure clearance with a feeler gage (Section B-B) and remove motor. For proper bearing pre-load, install shim gaskets (red -  $.002$ "; blue -  $.005$ "; brown -  $.010$ ") as required with a thickness that is  $.003$ " to  $.005$ " less than the measurement. Re-bolt motor securely.



BE SURE CLEARANCE  
WITH COLLAR IS  
MAINTAINED.

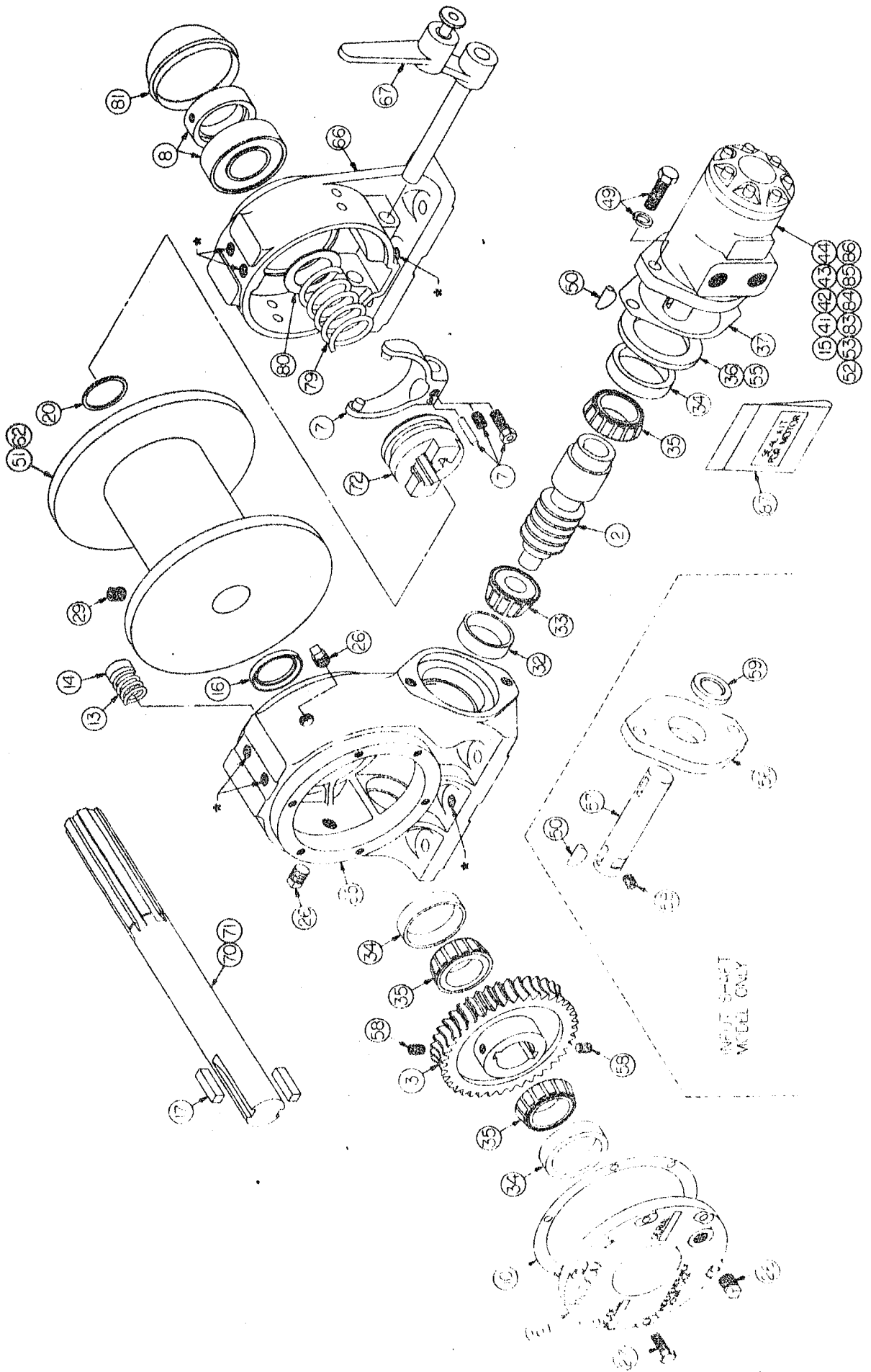
SECTION B-B

7. **DIRECT DRIVE:** Place drum and drive dog on shaft. Install retaining ring. Place end housing assembly on drum shaft and slide toward drum until there is about 1/16" clearance between housing and drum. Place collar on bearing being sure it is properly seated on bearing eccentric. Turn collar clockwise with punch until bearing and shaft are held tight, then tighten set screw.

**CLUTCH MODEL:** Install spring and phenolic friction block in gear case. Grease drum shaft (including splines) with multi-purpose lithium grease or equivalent to assure free operation of drum and clutch dog. Place drum on shaft and install retaining ring to hold drum against friction block. If yoke is not already securely fastened to clutch handle shaft, refer to "REPLACEMENT OF CLUTCH HANDLE AND YOKE" page. Grease clutch dog groove and place on drum shaft with spring and washer. Install end housing assembly on drum shaft placing yoke in clutch dog groove. Slide end housing toward drum until there is about 1/16" clearance between housing and drum. Place collar on bearing being sure it is properly seated on bearing eccentric. Turn collar clockwise with punch until bearing and shaft are held tight, then tighten set screw.

The dog is designed to engage fully into the drum when the spring-loaded clutch handle pin is in the hole closest to the drum. Check that the drum turns freely when the clutch handle pin is in the hole farthest from the drum. Refer to "REPLACEMENT OF CLUTCH HANDLE AND YOKE" page.

8. Fill gear case with (2) pints BLOOM #601 trans-worm gear oil. The hardened steel worm shaft must run in oil. For emergency situations when BLOOM #601 oil is not immediately available, use Philube SMP gear oil SAE Grade 80-90 or equivalent. Continuous use of oil other than BLOOM #601 oil may shorten the life of the gears. DO NOT mix BLOOM #601 oil with more than 50% of any other kind of oil.



\*For tapped holes and milled top pads order low profile parts.

F. REPLACEMENT PARTS

I. How to order parts

All parts may be ordered through Factory:

CENTURION INDUSTRIES, INC.  
45 Capitol Drive  
Oconomowoc, WI 53066

Phone: 414-567-3993

Twx: 62899469

Fax: 414-567-4307

WHEN ORDERING, ALWAYS GIVE THE FOLLOWING INFORMATION;

1. Part Numbers(s) listed on the component or assembly drawing.  
(Never order by Item Number or Code Number.)
2. Complete Part Description.
3. Serial Number and Model Number found on the metal label of each machine.
4. State quantity desired.
5. State when delivery is required.

# CENTURION INDUSTRIES INC.

235 HICKORY STREET

PEWAUKEE, WISCONSIN 53072 USA (414) 691-4150

CATERPILLAR 6.125 PITCH  $\varnothing$ 3-931

MODEL LINK ASSEMBLY PIN SIZE BUSHING SIZE		D3,931 SALT. 659066 1.128 $\varnothing$ x 6.161 1.850 $\varnothing$ x 3.707	D3,931 SEALED 659605 1.127 $\varnothing$ x 6.156 1.850 $\varnothing$ x 4.222	D3,931 S.A.L.T. 6Y1339 1.128 $\varnothing$ x 6.161 1.850/1.980 $\varnothing$ x 3.707	D3B/D4B 6Y1711 1.127" $\varnothing$ x 6.156 1.850 1.969 $\varnothing$ x 4.222 SEALED
DESCRIPTION	QTY				
SADDLE	1	D1054-017A	D1054-017A	D1054-017A	D1054-017A
TOOL MOUNT	4	757A	757A	757A	757A
SPACER, BUSHING	2	N/A	761	N/A	N/A
PIN TOOL DISASSEMBLY	2	812	1127	812	1127
BUSHING TOOL DISASSEMBLY	2	811	811	811	811
PIN HOLDER ASSEMBLY	2	816	816	816	816
PIN INSERT ASSEMBLY	2	814	814	814	814
BUSHING HOLDER ASSEMBLY	2	815	815	815	815
BUSHING INSERT ASSEMBLY	2	813	1128	813	1128
SPRING	4	56-0146	56-0146	56-0146	56-0146
GAUGE PLATE	1	N/A	36A	N/A	36A
SET SCREW	4	36-0261	36-0261	36-0261	36-0261
JAM SCREW	4	36-0262	36-0262	36-0262	36-0262
SOC HD SCREW	4	36-0371	36-0371	36-0371	36-0371
SHIM (PIN)	5	B1927-022	B1927-022	B1927-022	B1927-022

INTURION INDUSTRIAL INC.

845 HICKORY STREET

PEWAUKEE, WISCONSIN 53072 USA (414) 691-4150

CATERPILLAR 6.125 PITCH  $\emptyset$ 3-931

MODEL LINK ASSEMBLY PIN SIZE BUSHING SIZE		D3 SEALED 6S3142 1.127 $\emptyset$ x6.156 1.850 $\emptyset$ x4.222 "EARLY"			
DESCRIPTION	QTY				
SADDLE	1	D1054-07A			
TOOL MOUNT	4	757A			
SPACER, BUSHING	2	761			
PIN TOOL DISASSEMBLY	2	1127			
BUSHING TOOL DISASSEMBLY	2	811			
PIN HOLDER ASSEMBLY	2	816			
PIN INSERT ASSEMBLY	2	814			
BUSHING HOLDER ASSEMBLY	2	815			
BUSHING INSERT ASSEMBLY	2	1128			
SPRING	4	56-0146			
GAUGE PLATE	1	36A			
SET SCREW	4	36-0261			
JAM SCREW	4	36-0262			
SOC HD SCREW	4	36-0371			
SHIM (PIN)	5	B1927-022			



DESCRIPTION	REQUIRED			REQUIRED		
	QTY	I.D.	PART N <sup>o</sup>	QTY	I.D.	PART N <sup>o</sup>
SADDLE	1	N/A	D1054-017A			
TOOL MOUNT	4	757A	B1900-016A			
SPACER, BUSHING	2	761	B1905-028			
PIN DISASSY	2	812	B1902-035	2	1127	B1902-074
BUSHING. "	2	811	B1901-039			
PIN HOLDER, ASS'Y	2	816	B1904-078			
PIN INSERT, "	2	814	B1903-077			
BUSH HOLDER "	2	815	B1904-077			
BUSH INSERT "	2	813	B1903-076	2	1128	B1903-140
GAGE PLATE "	1	36A	C0439-013			
SOC HD SCREW	4	-	36-0371			
SHIM (PIN)	5	-	B1927-022			
SPRING	6	—	56-0146			
SET SCREW	4	—	36-0261			
JAM NUT	4	—	36-0262			
SOC HD SCREW	—	—	36-0259			

D3  
931

ITEM	QUANT.	DESCRIPTION
<b>CENTURION INDUSTRIES INC.</b>		
948 HICKORY STREET PEWAUKEE, WISCONSIN 53072		
TITLE		6.125 PITCH TOOL SET
DRAWN	DATE	SCALE
APPROVED	A2730-000 C	
	DRAWING NUMBER	

TURION INDUSTRIAL INC.  
 845 HICKORY STREET  
 PEWAUKEE, WISCONSIN 53072 USA (414) 691-4150  
 CATERPILLAR 6.735 PITCH

MODEL LINK ASSEMBLY PIN SIZE BUSHING SIZE		D4,C,D SEALED 4K7128 1.314 $\phi$ x7.00 1.994 $\phi$ x4.804 1/2" BOLT	D4,C,D SEALED 4K7136 1.314 $\phi$ x7.00 1.994 $\phi$ x4.804 9/16 BOLT	D4,C,D,E SEALED 1V7073,1V7075 1.314 $\phi$ x7.22 2.119 $\phi$ x4.996 5/8 BOLT	225 Exc SEALED 8K0323 1.314 $\phi$ x7.22 2.119 $\phi$ x4.996 5/8 BOLT
DESCRIPTION	QTY				
SADDLE	1	D1054-004	D1054-004	D1054-004	D1054-004
TOOL MOUNT	4	760A	760A	760A	760A
SPACER, BUSHING	2	789	789	N/A	917
PIN TOOL DISASSEMBLY	2	914	914	914	914
BUSHING TOOL DISASSEMBLY	2	1145	1145	911	911
PIN HOLDER ASSEMBLY	2	795	795	795	795
PIN INSERT ASSEMBLY	2	793	793	793	793
BUSHING HOLDER ASSEMBLY	2	794A	794A	919A	919A
BUSHING INSERT ASSEMBLY	2	792	792	837	837
SPRING	4	56-0146	56-0146	56-0146	56-0146
GAUGE PLATE	1	32	1391	1392	1392
SET SCREW	4	36-0261	36-0261	36-0261	36-0261
JAM SCREW	4	36-0262	36-0262	36-0262	36-0262
SOC HD SCREW	4	36-0371	36-0371	36-0371	36-0371
SHIMI (PIN)	5	A2904-001	A2904-001	A2904-001	A2904-001

TURION INDUSTRIES, INC.  
 845 HICKORY STREET  
 PEWAUKEE, WISCONSIN 53072 USA (414) 691-4150  
 CATERPILLAR 6.735 PITCH

MODEL LINK ASSEMBLY PIN SIZE BUSHING SIZE		D4,C,D S.A.L.T. 1V4599 1.315 $\phi$ x7.220 2.119 $\phi$ x4.437	943 H. RAIL 7T4629 1.315 $\phi$ x7.22 2.119/2.244 $\phi$ x4.437	D4H 3T0352 1.315 $\phi$ x7.22 2.205 $\phi$ x4.437	D6, B SEALED 2S1519, 2S1517 1.442 $\phi$ x8.125 2.119 $\phi$ x5.704
DESCRIPTION	QTY				
SADDLE	1	D1054-004	D1054-001A	D1054-001A	D1054-001A
TOOL MOUNT	4	760A	760A	760A	760A
SPACER, BUSHING	2	N/A	N/A	N/A	668
PIN TOOL DISASSEMBLY	2	791	791	791	1146
BUSHING TOOL DISASSEMBLY	2	911	911	1144	911
PIN HOLDER ASSEMBLY	2	795	795	795	686
PIN INSERT ASSEMBLY	2	793	1175	1175	688
BUSHING HOLDER ASSEMBLY	2	912A	912A	912A	685A
BUSHING INSERT ASSEMBLY	2	913	913	913	687
SPRING	4	56-0146	56-0146	56-0146	56-0146
GAUGE PLATE	1	N/A	N/A	N/A	27
SET SCREW	4	36-0261	36-0261	36-0261	36-0261
JAM SCREW	4	36-0262	36-0262	36-0262	36-0262
SOC HD SCREW	4	36-0371	36-0371	36-0371	36-0371
SHIM (PIN)	5	A2904-001	A2904-001	A2904-001	A2904-001

ENTURION INDUSTRIAL INC.

845 HICKORY STREET

PEWAUKEE, WISCONSIN 53072 USA (414) 691-4150

CATERPILLAR 6735 PITCH

MODEL	215 EXC	D4,C,D SEALED	215 Exc	213 EXC	
LINK ASSEMBLY	6A4713	7K2049	6T0511	5W4165	
PIN SIZE	1.314" $\phi$ x 6.366	1.314" $\phi$ x 7.000	1.314" $\phi$ x 7.222	1.325" $\phi$ x 6.970	
BUSHING SIZE	2.118" $\phi$ x 4.169	2.119" $\phi$ x 4.804	2.119" $\phi$ x 4.996	2.118/2.125" $\phi$	
DESCRIPTION	QTY	9/16 BOLT	9/16 BOLT	5/8 BOLT	x 4.995
SADDLE	1	D1054-023	D1054-004	D1054-023	
TOOL MOUNT	4	760A	760A	760A	
SPACER, BUSHING	2	835	835	917	
PIN TOOL DISASSEMBLY	2	914	914	914	
BUSHING TOOL DISASSEMBLY	2	911	911	911	
PIN HOLDER ASSEMBLY	2	795	795	795	
PIN INSERT ASSEMBLY	2	793	793	793	
BUSHING HOLDER ASSEMBLY	2	915A	836A	919A	
BUSHING INSERT ASSEMBLY	2	837	837	837	
SPRING	4	56-0146	56-0146	56-0146	
GAUGE PLATE	1	916	1391	1393	
SET SCREW	4	36-0261	36-0261	36-0261	
JAM SCREW	4	36-0262	36-0262	36-0262	
SOC HD SCREW	4	36-0371	36-0371	36-0371	
SHIM (PIN)	5	A2904-001	A2904-001	A2904-001	

DESCRIPTION	REQUIRED			REQUIRED		
	QTY	I.D.	PART N°	QTY	I.D.	PART N°
SADDLE	1	N/A	D1054-001A	1	N/A	D1054-004
SADDLE	1	N/A	D1054-023			
TOOL MOUNT	4	760A	B1900-019A			
SPACER, BUSHING	2	789	B1905-032	2	835	B1905-037
SPACER, "	2	668	B1905-019	2	917	B1905-044
PIN, DISASS'Y	2	914	B1902-045	2	1146	B1902-080
PIN, "	2	791	B1902-033			
BUSHING, "	2	1145	B1901-071	2	911	B1901-049
BUSHING, "	2	1144	B1901-070			
PIN HOLDER, ASS'Y	2	795	B1904-074	2	686	B1904-043
PIN INSERT, "	2	793	B1903-073	2	688	B1903-045
PIN INSERT, "	2	1175	B1903-150			
BUSH HOLDER "	2	794A	B1904-073	2	836A	B1904-083
BUSH HOLDER "	2	685A	B1904-042	2	912A	B1904-098
BUSH HOLDER "	2	915A	B1904-099	2	919A	B1904-100
BUSH INSERT "	2	792	B1903-072	2	837	B1903-082
BUSH INSERT "	2	687	B1903-044	2	913	B1903-095
SHIM (PIN)	10	—	A2904-001			
SPRING	12	—	56-0146			
SET SCREW	8	—	36-0261			
JAM NUT	8	—	36-0262			
SOC HD SCREW	—	—	36-0259			

ITEM	QUANT.	DESCRIPTION
<b>CENTURION INDUSTRIES INC.</b> 146 HICKORY STREET PEWAUKEE, WISCONSIN 53071		
TITLE <b>6.735 PITCH            TOOL SET</b>		
DRAWN	DATE	SCALE
APPROVED	DRAWING NUMBER	
	A2731-001	

DESCRIPTION	REQUIRED			REQUIRED		
	QTY	I.D.	PART N°	QTY	I.D.	PART N°
GAUGE PLATE	1	32	C0439-009	1	27	C0439-004
GAUGE PLATE	1	916	C0439-054	1	1391	C0439-070
GAUGE PLATE	1	1392	C0439-071	1	1393	C0439-072
SOC HD SCREW	8	-	36-0371			
SPRING		—	56-0146			
SET SCREW		—	36-0261			
JAM NUT		—	36-0262			
SOC HD SCREW		—	36-0259			

ITEM	QUANT.	DESCRIPTION
<b>CENTURION INDUSTRIES INC.</b>		
945 HICKORY STREET PEWAUKEE, WISCONSIN 53078		
TITLE	6.735 PITCH TOOL SET	
DRAWN	DATE	SCALE
APPROVED	A2731-001 DRAWING NUMBER	

SHEET 5 of 5

UNION INDUSTRIAL INC.  
 845 HICKORY STREET  
 PEWAUKEE, WISCONSIN 53072 USA (414) 691-4150  
 CATERPILLAR 6.906 PITCH

MODEL LINK ASSEMBLY PIN SIZE BUSHING SIZE		D5, B SEALED 3P5757 1.442 $\phi$ x8.125 2.312 $\phi$ x5.704	D5, B S.A.L.T. 3P3885 1.443 $\phi$ x8.122 2.312 $\phi$ x5.214	953 H. RAIL 7T4637 1.443 $\phi$ x8.122 2.312/2.441 $\phi$ x5.214	9T7 (OPT) SEAL "FORMER" 1.442 $\phi$ x8.125 2.312 $\phi$ x5.704
DESCRIPTION	QTY				
SADDLE	1	D1054-007	D1054-007	D1054-029	D1054-007
TOOL MOUNT	4	565A	565A	565A	565A
SPACER, BUSHING	2	696	N/A	N/A	696
PIN TOOL DISASSEMBLY	2	1129A	735	735	1129A
BUSHING TOOL DISASSEMBLY	2	736	736	736	736
PIN HOLDER ASSEMBLY	2	738	738	1091A	738
PIN INSERT ASSEMBLY	2	740B	740B	740B	740B
BUSHING HOLDER ASSEMBLY	2	737A	737A	737A	737A
BUSHING INSERT ASSEMBLY	2	1130	739	739	1130
SPRING	4	56-0146	56-0146	56-0146	56-0146
GAUGE PLATE	1	26	N/A	N/A	26
SET SCREW	4	36-0261	36-0261	36-0261	36-0261
JAM SCREW	4	36-0262	36-0262	36-0262	36-0262
SOC HD SCREW	4	36-0371	36-0371	36-0371	36-0371
SHIM (PIN)	5	A2904-001	A2904-001	A2904-001	A2904-001

TURTURION INDUSTRIAL INC.  
 845 HICKORY STREET  
 PEWAUKEE, WISCONSIN 53072 USA (414) 691-4150  
 CATERPILLAR 6.906 PITCH

MODEL		D5 PRO			
LINK ASSEMBLY		9W8844			
PIN SIZE		1.443 $\phi$ X 8.122			
BUSHING SIZE		2.312 $\phi$ / 2.441			
DESCRIPTION	QTY				
SADDLE	1	D1054-029			
TOOL MOUNT	4	565A			
SPACER, BUSHING	2	N/A			
PIN TOOL DISASSEMBLY	2	735			
BUSHING TOOL DISASSEMBLY	2	736			
PIN HOLDER ASSEMBLY	2	1091A			
PIN INSERT ASSEMBLY	2	740B			
BUSHING HOLDER ASSEMBLY	2	737A			
BUSHING INSERT ASSEMBLY	2	739			
SPRING	4	56-0146			
GAUGE PLATE	1	N/A			
SET SCREW	4	36-0261			
JAM SCREW	4	36-0262			
SOC HD SCREW	4	36-0371			
SHIM (PIN)	5	A2904-001			



DESCRIPTION	REQUIRED			REQUIRED		
	QTY	I.D.	PART N°	QTY	I.D.	PART N°
SADDLE	1	N/A	D1054-007	1	N/A	D1054-029
TOOL MOUNT	4	565A	B1900-008A			
SPACER, BUSHING	2	696	B1905-024			
PIN, DISASS'Y	2	735	B1902-027	2	1129A	B1902-075
BUSHING "	2	736	B1901-029			
PIN HOLDER, ASS'Y	2	738	B1904-059	2	1091A	B1904-135
PIN INSERT, "	2	740B	B1903-061			
BUSH HOLDER, "	2	737A	B1904-058			
BUSH INSERT, "	2	739	B1903-060	2	1130	B1903-141
GAGE PLATE "	1	26	C0439-003			
SOC HD SCREW	4	-	36-0371			
SHIM (PIN)	5	-	A2904-001			
SPRING	8	---	56-0146			
SET SCREW	6	---	36-0261			
JAM NUT	6	---	36-0262			
SOC HD SCREW	-	---	36-0259			

ITEM	QUANT.	DESCRIPTION
<b>CENTURION INDUSTRIES INC.</b>		
140 HICKORY STREET PEWAUKEE, WISCONSIN 53075		
TITLE		6.906 PITCH TOOL SET
DRAWN	DATE	SCALE
APPROVED	DRAWING NUMBER	
	A2732-000	

UNION INDUSTRIAL INC.  
 845 HICKORY STREET  
 PEWAUKEE, WISCONSIN 53072 USA (414) 691-4150  
 CATERPILLAR 7480 PITCH

MODEL		DSH	DSH QUAD LINK	225B EXC	
LINK ASSEMBLY		3T8581	9W4185	9W6775	
PIN SIZE		1.443" $\phi$ x 8.122	1.443" $\phi$ x 8.122	1.442" $\phi$ x 8.125	
BUSHING SIZE		2.413" $\phi$ x 5.214	2.413" $\phi$ x 5.214	2.312" $\phi$ x 5.704	
DESCRIPTION	QTY				
SADDLE	1	D1054-027A	D1054-027 A	D1054-039	
TOOL MOUNT	4	510A	510A	510A	
SPACER, BUSHING	2	N/A	N/A	696	
PIN TOOL DISASSEMBLY	2	735	735	1129A	
BUSHING TOOL DISASSEMBLY	2	736	736	736	
PIN HOLDER ASSEMBLY	2	1091A	1091A	738	
PIN INSERT ASSEMBLY	2	740B	740B	740B	
BUSHING HOLDER ASSEMBLY	2	1092A	1092A	737A	
BUSHING INSERT ASSEMBLY	2	1093	1093	1130	
SPRING	4	56-0146	56-0146	56-0146	
GAUGE PLATE	1	N/A	N/A	1387	
SET SCREW	4	36-0261	36-0261	36-0261	
JAM SCREW	4	36-0262	36-0262	36-0262	
SOC HD SCREW	4	36-0259	36-0259	36-0259	
SHIM (PIN)	5	A2904-001	A2904-001	A2904-001	

DESCRIPTION	REQUIRED			REQUIRED		
	QTY	I.D.	PART N <sup>o</sup>	QTY	I.D.	PART N <sup>o</sup>
SADDLE	1	N/A	D1054-027 <sub>A</sub>	1	N/A	D1054-039
TOOL MOUNT	4	510A	B1900-002A			
PIN, DISASS'Y	2	735	B1902-027	2	1129A	B1902-075
BUSHING, "	2	736	B1901-029			
PIN HOLDER, ASS'Y	2	1091A	B1904-135	2	738	B1904-059
PIN INSERT, "	2	740B	B1903-061			
BUSH HOLDER, "	2	1092A	B1904-136	2	737A	B1904-058
BUSH INSERT, "	2	1093	B1903-134	2	1130	B1903-141
SPACER, BUSHING	2	696	B1905-024			
GAUGE PLATE	1	1387	C0439-069			
SHIM (PIN)	5	-	A2904-001			
SPRING	4	---	56-0146			
SET SCREW	4	---	36-0261			
JAM NUT	4	---	36-0262			
SOC HD SCREW	4	---	36-0259			

ITEM	QUANT.	DESCRIPTION
<b>CENTURION INDUSTRIES INC.</b> 143 HICKORY STREET PEWAUKEE, WISCONSIN 53078		
TITLE	7.480 PITCH TOOL SET	
DRAWN	DATE	SCALE
		APPROVED
		DRAWING NUMBER

UNION INDUSTRIAL INC.  
 845 HICKORY STREET  
 PEWAUKEE, WISCONSIN 53072 USA (414) 691-4150  
 CATERPILLAR 7.985 PITCH

MODEL LINK ASSEMBLY PIN SIZE BUSHING SIZE		D6C, D SEALED 3P1088 1.752 $\phi$ x9.06 2.621 $\phi$ x6.365	D7, C, D SEALED 1S6877 1.752 $\phi$ x9.875 2.621 $\phi$ x6.865 5/8 BOLT	227 EXC 5N4583 1.752 $\phi$ x9.06 2.621 $\phi$ x6.365	963 HI RAIL 7T4651 1.753 $\phi$ x9.06 2.621/2.746 $\phi$ x 5.783
DESCRIPTION	QTY				
SADDLE	1	D1054-032 B	D1054-032 B	D1054-032 B	D1054-032 B
TOOL MOUNT	4	677A	677A	677A	677A
SPACER, BUSHING	2	723	689	689	N/A
PIN TOOL DISASSEMBLY	2	1134	1132	1134	703
BUSHING TOOL DISASSEMBLY	2	1131	1131	1131	1131
PIN HOLDER ASSEMBLY	2	726	1139A	726	726
PIN INSERT ASSEMBLY	2	728	728	1176	1176
BUSHING HOLDER ASSEMBLY	2	725A	725A	725A	725A
BUSHING INSERT ASSEMBLY	2	727	1136A	727	1138B
SPRING	4	56-0146	56-0146	56-0146	56-0146
GAUGE PLATE	1	33	1394	33	N/A
SET SCREW	4	36-0261	36-0261	36-0261	36-0261
JAM SCREW	4	36-0262	36-0262	36-0262	36-0262
SOC HD SCREW	4	36-0259	36-0259	36-0259	36-0259
SHIM (PIN)	5	A2904-002	A2904-002	A2904-002	A2904-002

UNION INDUSTRIAL INC.  
 845 HICKORY STREET  
 PEWAUKEE, WISCONSIN 53072 USA (414) 691-4150  
 CATERPILLAR 7.985 PITCH

MODEL LINK ASSEMBLY PIN SIZE BUSHING SIZE		D6H 6Y3519 1.753 $\phi$ x9.06 2.746 $\phi$ x5.783	D6C,D SALT 3P1118 1.753 $\phi$ x9.06 2.621/2.746 $\phi$ x5.783	D8,E,F,D 1S8845 1.752 $\phi$ x11.438 $\frac{2.621}{2.745}$ $\phi$ x 7.928 D8G SEALED	D7,C,D SEALED 1S6945 1.752 $\phi$ x9.875 2.621 $\phi$ x6.865 3/4" BOLT
DESCRIPTION	QTY				
SADDLE	1	D1054-032 B	D1054-032 B	D1054-032 B	D1054-032 B
TOOL MOUNT	4	677A	677A	677A	677A
SPACER, BUSHING	2	N/A	N/A	775	689
PIN TOOL DISASSEMBLY	2	703	703	1133	1132
BUSHING TOOL DISASSEMBLY	2	704	1131	1131	1131
PIN HOLDER ASSEMBLY	2	1143B	1141A	1140A	1139A
PIN INSERT ASSEMBLY	2	728	728	1156	728
BUSHING HOLDER ASSEMBLY	2	1096A	1096A	1096A	725A
BUSHING INSERT ASSEMBLY	2	1097	1383 (B)	1137B (B)	1136A
SPRING	4	56-0146	56-0146	56-0146	56-0146
GAUGE PLATE	1	N/A	N/A	25	28
SET SCREW	4	36-0261	36-0261	36-0261	36-0261
JAM SCREW	4	36-0262	36-0262	36-0262	36-0262
SOC HD SCREW	4	36-0259	36-0259	36-0259	36-0259
SHIM (PIN)	5	A2904-002	A2904-002	A2904-002	A2904-002

DESCRIPTION	REQUIRED			REQUIRED		
	QTY	I.D.	PART N <sup>o</sup>	QTY	I.D.	PART N <sup>o</sup>
SADDLE	1	N/A	D1054-032			
TOOL MOUNT	4	677A	B1900-015A			
SPACER, BUSHING	2	689	B1905-023	2	723	B1905-026
SPACER, BUSHING	2	775	B1905-030			
PIN, DISASSY	2	1132	B1902-076	2	703	B1902-023
PIN, "	2	1134	B1902-078	2	1133	B1902-077
BUSHING, "	2	1131	B1901-069	2	704	B1901-024
PIN HOLDER, ASSY	2	1143 <sup>B</sup>	B1904-155			
PIN HOLDER, "	2	1139A	B1904-151	2	1140A	B1904-152
PIN HOLDER, "	2	726	B1904-055	2	1141A	B1904-153
PIN INSERT, "	2	1176	B1903-151			
PIN INSERT, "	2	728	B1903-057	2	1156	B1903-145
BUSH HOLDER, "	2	725A	B1904-054	2	1096A	B1904-138
BUSH INSERT, "	2	1136A	B1903-142	2	1137B	B1903-143
BUSH INSERT, "	2	727	B1903-056	2	1097	B1903-136
BUSH INSERT, "	2	1138B	B1903-144	2	1383	B1903-219
GAGE PLATE, "	1	28	C0439-005	1	25	C0439-002
GAGE PLATE, "	1	33	C0439-010	1	1394	C0439-073
SPRING	12	—	56-0146			
SET SCREW	10	—	36-0261			
JAM NUT	10	—	36-0262			
SOC HD SCREW	12	—	36-0259			

ITEM	QUANT.	DESCRIPTION
<b>CENTURION INDUSTRIES INC.</b>		
143 HICKORY STREET PEWAUKEE WISCONSIN 53078		
TITLE		7.985 PITCH TOOL SET
DRAWN	DATE	SCALE
APPROVED		A2734-000
		DRAWING NUMBER

UNION INDUSTRIAL INC.  
 845 HICKORY STREET  
 PEWAUKEE, WISCONSIN 53072 USA (414) 691-4150  
 CATERPILLAR 8.500 PITCH

MODEL LINK ASSEMBLY PIN SIZE BUSHING SIZE		D7H 9G2423 1.878"Øx9.882 2.937"Øx6.405	D8LS,A.L.T. 7T2753 1.878"Øx9.882 2.937"/3.215"Ø x 6.406	D8N NON PPR 6Y1136 1.878"Øx9.882 2.937/3.214"Ø x 6.405	235 EXC 3V4991 1.877"Øx9.88 2.812"Øx6.963 3/4 BOLT
DESCRIPTION	QTY				
SADDLE	1	D1096-001	D1096-002	D1096-002	D1096-001
TOOL MOUNT	4	573 A	573 A	573 A	573 A
SPACER, BUSHING	2	N/A	N/A	N/A	922
PIN TOOL DISASSEMBLY	2	589	589	589	1123
BUSHING TOOL DISASSEMBLY	2	588	588	588	1107
PIN HOLDER ASSEMBLY	2	1106A	593	593	579
PIN INSERT ASSEMBLY	2	591A	1177	1177	577
BUSHING HOLDER ASSEMBLY	2	592	592	592	578
BUSHING INSERT ASSEMBLY	2	590	590	590	576A
SPRING	4	56-0146	56-0146	56-0146	56-0146
GAUGE PLATE	1	N/A	N/A	N/A	221
SET SCREW	4	36-0261	36-0261	36-0261	36-0261
JAM SCREW	4	36-0262	36-0262	36-0262	36-0262
SOC HD SCREW	4	36-0259	36-0259	36-0259	36-0259
SHIM (PIN)	5	A2904-002	A2904-002	A2904-002	A2904-002
MASTER PIN SPACER - ASSY	2	N/A	N/A	1105	N/A

DESCRIPTION	REQUIRED			REQUIRED		
	QTY	I.D.	PART N <sup>o</sup>	QTY	I.D.	PART N <sup>o</sup>
SHIM (PIN)	10	-	A2904-002			
SPRING		—	56-0146			
SET SCREW		—	36-0261			
JAM NUT		—	36-0262			
SOC HD SCREW		—	36-0259			

ITEM	QUANT.	DESCRIPTION
<b>CENTURION INDUSTRIES INC.</b> 413 HICKORY STREET PEWAUKEE, WISCONSIN 53071		
TITLE		
7.985 PITCH TOOL SET		
DRAWN	DATE	SCALE
APPROVED	DRAWING NUMBER	
	A2734-000	

SHEET 5 OF 5



UNION INDUSTRIAL INC.  
 845 HICKORY STREET  
 PEWAUKEE, WISCONSIN 53072 USA (414) 691-4150  
 CATERPILLAR 8.500 PITCH

MODEL LINK ASSEMBLY PIN SIZE BUSHING SIZE		235 EXC 3V4991, 3/4 BOLT 1.877 $\phi$ x9.88 2.812 $\phi$ x6.963	D7E, F, G, 3P0955 1.877 $\phi$ x9.88 2.812 $\phi$ x6.963 571A SEALED	D7E, F, G, 3P0629 1.850 $\phi$ x9.882 2.812 $\phi$ x6.409 571A S.A.L.T.	973 HI RAIL 9W9167 1.878 $\phi$ x9.882 2.812/2.937 $\phi$ X 6.409
DESCRIPTION	QTY				
SADDLE	1	D1096-001	D1096-001	D1096-001	D1096-001
TOOL MOUNT	4	573A	573A	573A	573A
SPACER, BUSHING	2	922	580	N/A	N/A
PIN TOOL DISASSEMBLY	2	1123	1123	589	589
BUSHING TOOL DISASSEMBLY	2	1107	1107	1107	1107
PIN HOLDER ASSEMBLY	2	579	579	579	579
PIN INSERT ASSEMBLY	2	577	577	1178	1179
BUSHING HOLDER ASSEMBLY	2	578	578	578 $\Delta$	578 $\Delta$
BUSHING INSERT ASSEMBLY	2	576A	576A	1384	1384
SPRING	4	56-0146	56-0146	56-0146	56-0146
GAUGE PLATE	1	221	28	N/A	N/A
SET SCREW	4	36-0261	36-0261	36-0261	36-0261
JAM SCREW	4	36-0262	36-0262	36-0262	36-0262
SOC HD SCREW	4	36-0259	36-0259	36-0259	36-0259
SHIM (PIN)	5	A2904-002	A2904-002	A2904-002	A2904-002

UNION INDUSTRIAL INC.  
 845 HICKORY STREET  
 PEWAUKEE, WISCONSIN 53072 USA (414) 691-4150  
 CATERPILLAR 8.500 PITCH

MODEL LINK ASSEMBLY PIN SIZE BUSHING SIZE	977 (FORMER) 1.877 $\phi$ x9.88 2.812 $\phi$ x6.963	973 7T6037 1.877 $\phi$ x9.88 2.812 $\phi$ x6.963	D7 PRO 9W8842 1.878 $\phi$ x9.882 x 6.409	977 PRO 9W8812 1.878 $\phi$ x9.882 x 6.409
DESCRIPTION	QTY			
SADDLE	1	D1096-001	D1096-001	D1096-001
TOOL MOUNT	4	573A	573A	573A
SPACER, BUSHING	2	580	580	N/A
PIN TOOL DISASSEMBLY	2	1123	1123	589
BUSHING TOOL DISASSEMBLY	2	1107	1107	1107
PIN HOLDER ASSEMBLY	2	579	579	579
PIN INSERT ASSEMBLY	2	577	577	1179
BUSHING HOLDER ASSEMBLY	2	578	578	578
BUSHING INSERT ASSEMBLY	2	576A	576A	1384
SPRING	4	56-0146	56-0146	56-0146
GAUGE PLATE	1	28	28	N/A
SET SCREW	4	36-0261	36-0261	36-0261
JAM SCREW	4	36-0262	36-0262	36-0262
SOC HD SCREW	4	36-0259	36-0259	36-0259
SHIM (PIN)	5	A2904-002	A2904-002	A2904-002

UNION INDUSTRIAL INC.

845 HICKORY STREET

PEWAUKEE, WISCONSIN 53072 USA (414) 691-4150

CATERPILLAR 8.500 PITCH

MODEL		235 EXC			
LINK ASSEMBLY		7T9827, 7/8 BOLT			
PIN SIZE		1.877 $\phi$ x 9.88			
BUSHING SIZE		2.812 $\phi$ x 6.963			
DESCRIPTION	QTY				
SADDLE	1	D1096-001			
TOOL MOUNT	4	573A			
SPACER, BUSHING	2	922			
PIN TOOL DISASSEMBLY	2	1123			
BUSHING TOOL DISASSEMBLY	2	1107			
PIN HOLDER ASSEMBLY	2	579			
PIN INSERT ASSEMBLY	2	577			
BUSHING HOLDER ASSEMBLY	2	578			
BUSHING INSERT ASSEMBLY	2	576A			
SPRING	4	56-0146			
GAUGE PLATE	1	1453			
SET SCREW	4	36-0261			
JAM SCREW	4	36-0262			
SOC HD SCREW	4	36-0259			
SHIM (PIN)	5	A2904-002			

DESCRIPTION	REQUIRED			REQUIRED		
	QTY	I.D.	PART N°	QTY	I.D.	PART N°
SADDLE	1	N/A	D1096-001	1	N/A	D1096-002
TOOL MOUNT	4	573A	B1900-009A			
SPACER, BUSHING	2	580	B1905-009	2	922	B1905-046
PIN, DISASSY	2	589	B1902-011	2	1123	B1902-072
BUSHING, "	2	588	B1901-011	2	1107	B1901-067
PIN HOLDER, ASSY	2	579	B1904-020	2	1106A	B1904-143
PIN HOLDER, "	2	593	B1904-024			
PIN INSERT, "	2	1177	B1903-152	2	1178	B1903-153
PIN INSERT, "	2	591A	B1903-025	2	577	B1903-021
PIN INSERT, "	2	1179	B1903-154			
BUSH HOLDER, "	2	592	B1904-023	2	578	B1904-019
BUSH INSERT, "	2	596	B1903-024	2	576A	B1903-020
BUSH INSERT, "	2	1384	B1903-220			
GAGE PLATE	1	28	C0439-005	1	221	C0439-030
GAGE PLATE	1	1453	C0439-076			
MASTER PIN SPACER	2	1105	A2783-006			
SHIM (PIN)	10	-	A2904-002			
SPRING	12	—	56-0146			
SET SCREW	10	—	36-0261			
JAM NUT	10	—	36-0262			
SOC HD SCREW	8	—	36-0259			

ITEM	QUANT.	DESCRIPTION
<b>CENTURION INDUSTRIES INC.</b>		
645 HICKORY STREET PEWAUKEE WISCONSIN 53078		
TITLE		8.500 PITCH TOOL SET
DRAWN	DATE	SCALE
APPROVED	DRAWING NUMBER	
		A2735-000 B

UNION INDUSTRIES, INC.  
 845 HICKORY STREET  
 PEWAUKEE, WISCONSIN 53072 USA (414) 691-4150  
 CATERPILLAR 9.000 PITCH

MODEL LINK ASSEMBLY PIN SIZE BUSHING SIZE		D8H, K SEALED 850398 2.003" $\phi$ x 11.438 2.996/3.038 $\phi$ x 7.941	D8H, K S.A.L.T. 9W8938 2.002" $\phi$ x 11.437 2.996/3.163 $\phi$ x 7.355"	D9L S.A.L.T. 6Y1185 2.003" $\phi$ x 11.437 3.228/3.346 $\phi$ x 7.355"	245S 8K4753 2.003" $\phi$ x 11.438 2.996/3.038 $\phi$ x 7.941
DESCRIPTION	QTY				
SADDLE	1	D1096-003	D1096-003	D1096-009	D1096-003
TOOL MOUNT	4	552A	552A	552A	552A
SPACER, BUSHING	2	716	N/A	N/A	1198
PIN TOOL DISASSEMBLY	2	1117	546	546	1117
BUSHING TOOL DISASSEMBLY	2	1118	545	545	1118
PIN HOLDER ASSEMBLY	2	848	848	848	848
PIN INSERT ASSEMBLY	2	850	1180A	875B	850
BUSHING HOLDER ASSEMBLY	2	1119A	1119A	872A	1119A
BUSHING INSERT ASSEMBLY	2	874A	547A	1390	874A
SPRING	4	56-0146	56-0146	56-0146	56-0146
GAUGE PLATE	1	34	N/A	N/A	34
SET SCREW	4	36-0261	36-0261	36-0261	36-0261
JAM SCREW	4	36-0262	36-0262	36-0262	36-0262
SOC HD SCREW	4	36-0259	36-0259	36-0259	36-0259
SHIM (PIN)	5	A2904-003	A2904-003	A2904-003	A2904-003

UNION INDUSTRIES, INC.  
 845 HICKORY STREET  
 PEWAUKEE, WISCONSIN 53072 USA (414) 691-4150  
 CATERPILLAR 9.000 PITCH

MODEL LINK ASSEMBLY PIN SIZE BUSHING SIZE		D8H, K SEALED 8S0398 2.003"Øx11.438	D8H, K S.A.L.T. 9W8938 2.002"Øx11.437	D9L S.A.L.T. 6Y1185 2.003"Øx11.437	245S 8K4753 2.003"Øx11.438
DESCRIPTION	QTY	2.996/3.038 Ø x 7.941	2.996/3.163 Ø x 7.355"	3.228/3.346 Ø x 7.355"	2.996/3.038 Ø x 7.941
SADDLE	1	D1096-003	D1096-003	D1096-009	D1096-003
TOOL MOUNT	4	552A	552A	552A	552A
SPACER, BUSHING	2	716	N/A	N/A	1198
PIN TOOL DISASSEMBLY	2	1117	546	546	1117
BUSHING TOOL DISASSEMBLY	2	1118	545	545	1118
PIN HOLDER ASSEMBLY	2	848	848	848	848
PIN INSERT ASSEMBLY	2	850	1180A	875B	850
BUSHING HOLDER ASSEMBLY	2	1119A	1119A	872A	1119A
BUSHING INSERT ASSEMBLY	2	874A	547A	1390	874A
SPRING	4	56-0146	56-0146	56-0146	56-0146
GAUGE PLATE	1	34	N/A	N/A	34
SET SCREW	4	36-0261	36-0261	36-0261	36-0261
JAM SCREW	4	36-0262	36-0262	36-0262	36-0262
SOC HD SCREW	4	36-0259	36-0259	36-0259	36-0259
SHIM (PIN)	5	A2904-003	A2904-003	A2904-003	A2904-003
					X

CENTURION INDUSTRIES INC.  
 845 HICKORY STREET  
 PEWAUKEE, WISCONSIN 53072 USA (414) 691-4150  
 CATERPILLAR 9.000 PITCH (PPR)

MODEL LINK ASSEMBLY PIN SIZE BUSHING SIZE		D9L PPR 6Y1186 2.003 <sup>ø</sup> x10.768 3.228/3.346 x 7.355			
DESCRIPTION	QTY				
SADDLE	1	D1096-009			
TOOL MOUNT R.H.	1	C1000-003			
TOOL MOUNT L.H.	1	C1001-003			
PIN TOOL DISASSEMBLY	2	932			
BUSHING TOOL DISASSEMBLY	2	933			
PIN HOLDER ASSEMBLY	2	-935 ✓			
PIN INSERT NOMINAL	1	937			
PIN INSERT OTHER SIDE	1	938 ✓			
BUSHING HOLDER ASSEMBLY	2	1153			
BUSHING INSERT ASSEMBLY	2	1151			
SPRING	4	56-0150			
SET SCREW	4	36-0261			
JAM NUT	4	36-0262			

DESCRIPTION	REQUIRED			REQUIRED		
	QTY	I.D.	PART N°	QTY	I.D.	PART N°
SADDLE				1	N/A	D1096-003
SADDLE	1	N/A	D1096-009			
TOOL MOUNT	1	N/A	C1000-003	1	N/A	C1001-003
TOOL MOUNT	4	552A	B1900-006A			
SPACER BUSHING	2	716	B1905-025	2	1198	B1905-065
PIN, DISASS'Y	2	1117	B1902-071	2	546	B1902-006
BUSHING, "	2	545	B1901-006	2	1118	B1901-072
PIN HOLDER, ASSY	2	848	B1904-087			
PIN INSERT, "	2	850	B1903-086	2	875B	B1903-088
PIN INSERT, "	2	1180A	B1903-155			
BUSH HOLDER, "	2	872A	B1904-088	2	1119A	B1904-146
BUSH INSERT, "	2	547A	B1903-014			
BUSH INSERT,	2	874A	B1903-087	2	1390	B1903-221
PIN - DISASS'Y	2	932	B2054-006			
BUSHING "	2	933	B2055-005			
PIN HOLDER, ASSY	2	935	B2057-010			
GAGE PLATE	1	34	C0439-011			
SPRING	12	—	56-0146			
SET SCREW	12	—	36-0261			
JAM NUT	12	—	36-0262			
SOC HD SCREW	8	—	36-0259			

ITEM	QUANT.	DESCRIPTION
<b>CENTURION INDUSTRIES INC.</b> 048 HICKORY STREET PEWAUKEE, WISCONSIN 53079		
TITLE		9.000 PITCH TOOL SET
DRAWN	DATE	SCALE
APPROVED	DRAWING NUMBER	



DESCRIPTION	REQUIRED			REQUIRED		
	QTY	I.D.	PART N <sup>o</sup>	QTY	I.D.	PART N <sup>o</sup>
PIN INSERT - ASSY	1	937	C1166-008	1	938	C1166-009
BUSH HOLDER "	2	1153	C1165-002			
BUSH INSERT "	2	1151	C1166-007			
SHIM (PIN)	10	-	A2904-003			
SPRING		—	56-0146	4	-	56-0150
SET SCREW . .		—	36-0261			
JAM NUT		—	36-0262			
SOC HD SCREW		—	36-0259			

ITEM	QUANT.	DESCRIPTION
<b>CENTURION INDUSTRIES INC.</b> 445 HICKORY STREET PEWAUKEE, WISCONSIN 53075		
TITLE	9.000 PITCH TOOL SET	
DRAWN	DATE	SCALE
APPROVED	DRAWING NUMBER	
		A2736-000

SHEET 4 OF 4

DESCRIPTION	REQUIRED			REQUIRED		
	QTY	I.D.	PART N <sup>o</sup>	QTY	I.D.	PART N <sup>o</sup>
PIN INSERT - Assy	1	937	C1166-008	1	938	C1166-009
BUSH HOLDER "	2	1153	C1165-002			
BUSH INSERT "	2	1151	C1166-007			
SHIM (PIN)	10	-	A2904-003			
SPRING /		---	56-0146	4	-	56-0150
SET SCREW...		---	36-0261			
JAM NUT		---	36-0262			
SOC HD SCREW		---	36-0259			

ITEM	QUANT.	DESCRIPTION	
<b>CENTURION INDUSTRIES INC.</b> 648 HICKORY STREET PEWAUKEE, WISCONSIN 53078			
TITLE	9.000 PITCH TOOL SET		
DRAWN	DATE	SCALE	APPROVED
			A2736-000
			DRAWING NUMBER

UNION INDUSTRIAL INC.

845 HICKORY STREET

PEWAUKEE, WISCONSIN 53072 USA (414) 691-4150

CATERPILLAR 9.448 PITCH

MODEL LINK ASSEMBLY PIN SIZE BUSHING SIZE		D9N NON PPR 6Y1130 2.003"Ø x 10.984 3.163"/3.346" x 7.257"			
DESCRIPTION	QTY				
SADDLE	1	D1096-007			
TOOL MOUNT	4	1126A			
SPACER, BUSHING	2	N/A			
PIN TOOL DISASSEMBLY	2	1110			
BUSHING TOOL DISASSEMBLY	2	1148			
PIN HOLDER ASSEMBLY	2	1111A			
PIN INSERT ASSEMBLY	2	1059			
BUSHING HOLDER ASSEMBLY	2	1149			
BUSHING INSERT ASSEMBLY	2	1057A			
SPRING	4	56-0146			
GAUGE PLATE	1	N/A			
SET SCREW	4	36-0261			
JAM SCREW	4	36-0262			
SOC HD SCREW	4	36-0259			
MASTER PIN SPACER	2	A2783-003			
SPACER (PIN)	5	A2904-003			

DESCRIPTION	REQUIRED			REQUIRED		
	QTY	I.D.	PART N°	QTY	I.D.	PART N°
SADDLE	1	N/A	D1096-007	1		1096-007
TOOL MOUNT	4	1126A	B1900-027A	2		C-1000-004
PIN, DISASS'Y	2	1110	B1902-070	2		1935
BUSHING, "	2	1148	B1901-068			1936
PIN HOLDER, ASSY	2	1111A	B1904-145			
PIN INSERT "	2	1059	B2056-018			
BUSH HOLDER "	2	1149	B1904-156			1937
BUSH INSERT	2	1057A	B2056-017			1939
MASTER PIN SPACER	2	—	A2783-003			
SHIM (PIN)	5	—	A2904-003			
SPRING	4	—	56-0146			
SET SCREW	4	—	36-0261			
JAM NUT	4	—	36-0262			
SOC HD SCREW	4	—	36-0259			

ITEM	QUANT.	DESCRIPTION
<b>CENTURION INDUSTRIES INC.</b> 948 HICKORY STREET MILWAUKEE, WISCONSIN 53071		
TITLE	9.448 PITCH TOOL SET	
DRAWN	DATE	SCALE
APPROVED	DRAWING NUMBER	
		A2737-000 A

UNION INDUSTRIAL INC.  
 845 HICKORY STREET  
 PEWAUKEE, WISCONSIN 53072 USA (414) 691-4150  
 CATERPILLAR 10.250 PITCH

MODEL LINK ASSEMBLY PIN SIZE BUSHING SIZE		D9G,H S.A.L.T. 9W8320 2.253 $\phi$ x12.25 3.371/3.496 $\phi$ 8.270	D9D,E,G,H 8S1731 2.253 $\phi$ x12.25 3.371 $\phi$ x8.856 594 SEALED	245 EXC 9G7108 2.253 $\phi$ x11.259 3.371 $\phi$ x7.866	
DESCRIPTION	QTY				
SADDLE	1	D1092-004	D1092-004	D1092-004	
TOOL MOUNT	4	557A	557A	557A	
SPACER, BUSHING	2	N/A	883	883	
PIN TOOL DISASSEMBLY	2	906	910	910	
BUSHING TOOL DISASSEMBLY	2	907	907	907	
PIN HOLDER ASSEMBLY	2	909	909	909	
PIN INSERT ASSEMBLY	2	1181	880	1181	
BUSHING HOLDER ASSEMBLY	2	908	908	908	
BUSHING INSERT ASSEMBLY	2	879	882	882	
SPRING	4	56-0146	56-0146	56-0146	
GAUGE PLATE	1	N/A	35	924	
SET SCREW	4	36-0261	36-0261	36-0261	
JAM SCREW	4	36-0262	36-0262	36-0262	
SOC HD SCREW	4	36-0259	36-0259	36-0259	
SHIM (PIN)	5	A2904-003	A2904-003	A2904-003	

URION INDUSTRIAL CO.  
 845 HICKORY STREET  
 PEWAUKEE, WISCONSIN 53072 USA (414) 691-4150  
 CATERPILLAR 10.250 PITCH

MODEL LINK ASSEMBLY PIN SIZE BUSHING SIZE		D9G, H S.A.L.T. 9W8320 2.253 $\phi$ x12.25 3.371/3.496 $\phi$ 8.270	D9D, E, G, H 8S1731 2.253 $\phi$ x12.25 3.371 $\phi$ x8.856 594 SEALED	245 EXC 9G7108 2.253 $\phi$ x11.259 3.371 $\phi$ x7.866	
DESCRIPTION	QTY				
SADDLE	1	D1092-004	D1092-004	D1092-004	
TOOL MOUNT	4	557A	557A	557A	
SPACER, BUSHING	2	N/A	883	883	
PIN TOOL DISASSEMBLY	2	906	910	910	
BUSHING TOOL DISASSEMBLY	2	907	907	907	
PIN HOLDER ASSEMBLY	2	909	909	909	
PIN INSERT ASSEMBLY	2	1181	880	1181	
BUSHING HOLDER ASSEMBLY	2	908	908	908	
BUSHING INSERT ASSEMBLY	2	879	882	882	
SPRING	4	56-0146	56-0146	56-0146	
GAUGE PLATE	1	N/A	35	924	
SET SCREW	4	36-0261	36-0261	36-0261	
JAM SCREW	4	36-0262	36-0262	36-0262	
SOC HD SCREW	4	36-0259	36-0259	36-0259	
SHIM (PIN)	5	A2904-003	A2904-003	A2904-003	

CENTURION INDUSTRIES INC.  
 845 HICKORY STREET  
 PEWAUKEE, WISCONSIN 53072 USA (414) 691-4150  
 CATERPILLAR 10.250 . PITCH (PPR) (NON PPR)

MODEL LINK ASSEMBLY		D10 NON PPR	D10 PPR	D10N PPR	D10N NON PPR
PIN SIZE		9W5824 2.253"Øx12.25"	9W6086 2.253"Øx11.974"	6Y2059 2.253"Øx11.974"	6Y2058 2.253"Øx12.25"
BUSHING SIZE		3.809"Øx8.270"	3.809"Øx8.27"	3.557"/3.740"Ø x 8.280"	3.557"/3.740"Ø x 8.280"
DESCRIPTION	QTY				
SADDLE	1	D1092-003	D1092-003	D1092-003	D1092-003
TOOL MOUNT R.H.	1	C1000-002	C1000-002	C1000-002	C1000-002
TOOL MOUNT L.H.	1	C1001-002	C1001-002	C1001-002	C1001-002
PIN TOOL DISASSEMBLY	2	858	864	864	858
BUSHING TOOL DISASSEMBLY	2	859	859	1061	1061
PIN HOLDER ASSEMBLY	2	1174A	866A	866A	1155
PIN INSERT NOMINAL	1	N/A	869	869	N/A
PIN INSERT OTHER SIDE	1	N/A	868	868	N/A
BUSHING HOLDER ASSEMBLY	2	865A	865A	1154	1154
BUSHING INSERT ASSEMBLY	2	867	867	1064	1064
SPRING	4	56-0150	56-0150	56-0150	56-0150
SET SCREW	4	36-0261	36-0261	36-0261	36-0261
JAM NUT	4	36-0262	36-0262	36-0262	36-0262
MASTER PIN SPACER ASS'Y	2	1158	N/A	N/A	1157
PIN INSERT ASSEMBLY	2	1114	N/A	N/A	1114
SHIM (PIN)	5	A2904-003	N/A	N/A	A2904-003

DESCRIPTION	REQUIRED			REQUIRED		
	QTY	I.D.	PART N°	QTY	I.D.	PART N°
SADDLE	1	N/A	D1092-004	1	N/A	D1092-003
TOOL MOUNT	4	557A	B1900-007A			
TOOL MOUNT	1	N/A	C1000-002	1	N/A	C1001-002
SPACER, BUSHING	2	883	B1905-040			
PIN, DISASS'Y	2	858	B2054-002	2	864	B2054-003
PIN, "	2	906	B1902-043	2	910	B1902-044
BUSHING "	2	859	B2055-002	2	907	B1901-048
BUSHING "	2	1061	B2055-007			
PIN HOLDER, ASSY	2	909	B1904-097	2	866A	B2057-006
PIN INSERT "	2	880	B2056-009	2	1114	C1166-011
PIN INSERT "	1	868	C1166-002	1	869	C1166-003
BUSH HOLDER "	2	908	B1904-096	2	865A	B2057-005
BUSH HOLDER "	2	1154	C1165-003	2	1174A	B2057-011
BUSH INSERT "	2	879	B2056-008	2	882	B2056-010
BUSH INSERT "	2	1064	C1166-010			
BUSH INSERT "	2	867	C1166-001			
PIN HOLDER "	2	1155	C1165-004			
GAGE PLATE	1	35	C0439-012	1	924	C0439-055
SPRING	12	—	56-0146	16	—	56-0150
SET SCREW	12	—	36-0261			
JAM NUT	12	—	36-0262			
SOC HD SCREW	8	—	36-0259			

ITEM	QUANT.	DESCRIPTION
<b>CENTURION INDUSTRIES INC.</b>		
946 VICTORY STREET MILWAUKEE, WISCONSIN 53079		
TITLE	10.250 PITCH TOOL SET	
DRAWN	DATE	SCALE
APPROVED	A2738-000	
DRAWING NUMBER		





CENTURION INDUSTRIES INC.  
 845 HICKORY STREET  
 PEWAUKEE, WISCONSIN 53072 USA (414) 691-4150  
 CATERPILLAR 12.500 PITCH (PPR)

MODEL LINK ASSEMBLY PIN SIZE BUSHING SIZE		DIIN PPR GY1128 2.626φx13.812 4.195/4.330φ x 9.343			
DESCRIPTION	QTY				
SADDLE	1	D1092-005			
TOOL MOUNT R.H.	1	C1000-005			
TOOL MOUNT L.H.	1	C1001-005			
PIN TOOL DISASSEMBLY	2	<del>925</del> B2034-005			
BUSHING TOOL DISASSEMBLY	2	926			
PIN HOLDER ASSEMBLY	2	928			
PIN INSERT NOMINAL	1	930			
PIN INSERT OTHER SIDE	1	931			
BUSHING HOLDER ASSEMBLY	2	1152			
BUSHING INSERT ASSEMBLY	2	1150			
SPRING	4	56-0150			
SET SCREW	4	36-0261			
JAM NUT	4	36-0262			
SPACER, ANVIL	2	A2871			

DESCRIPTION	REQUIRED			REQUIRED		
	QTY	I.D.	PART N <sup>o</sup>	QTY	I.D.	PART N <sup>o</sup>
SADDLE	1	N/A	D1092-005			
TOOL MOUNT	1	N/A	C1000-005	1	N/A	C1001-005
PIN, DISASSY	2	925	B2054-005			
BUSHING, "	2	926	B2055-004			
PIN HOLDER, ASSY	2	928	B2061-003			
PIN INSERT "	1	930	C1166-005	1	931	C1166-006
BUSH HOLDER "	2	1152	C1165-001			
BUSH INSERT "	2	1150	C1166-004			
ANVIL SPACER	2	N/A	A2871			
SPRING	N/A	—	56-0146	4	-	56-0150
SET SCREW	4	—	36-0261			
JAM NUT	4	—	36-0262			
SOC HD SCREW	N/A	—	36-0259			

ITEM	QUANT.	DESCRIPTION
<b>CENTURION INDUSTRIES INC.</b>		
445 HICKORY STREET PEWAUKEE, WISCONSIN 53071		
TITLE		12.500 PITCH TOOL SET
DRAWN	DATE	SCALE
APPROVED	DRAWING NUMBER A2739.000	