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PARTS LIST AND INSTRUCTIONS FOR  
MODEL HS-760-RKB HIGH SPEED SHEAR

February , 1978

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## GENERAL INFORMATION

WYSONG High speed shears are designed for high speed cut to length lines, where fast cyclic rate is demanded.

The 300 stroke per minute shear, utilizes a reverse knife bar to provide minimum clearance behind the shear, this permits gauging close to the cutting line. Equipped with a high carbon, high chrome, upper bowtie blade the material is sheared simultaneously from each edge toward the center, insuring virtually distortion free blanks.

The machine consists of nodular table mounted between nodular end frames. The lower blade is attached to the table and the upper blade is attached to a knife bar which slides up and down in vertical ways attached to the upper portion of the end frames. The knife bar is driven by two eccentrics which receive their rotary motion from the eccentric shaft. The eccentric shaft is connected through an air operated clutch to a motor driven flywheel. The eccentric shaft is also equipped with a "fail safe" air released brake.

Operation of the machine is controlled by electrically operated pneumatic devices. Provisions are incorporated for operation of the shear by means of a remotely controlled customer signal.

## SPECIFICATIONS

MODEL	HS 760 RKB	HS 772 RKB	HS 1052 RKB	HS 1060 RKB	HS 1072 RKB	HS 1252 RKB	HS 1260 RKB	HS 1452 RKB	HS 1460 RKB
CAPACITY, MILD STEEL	10GA	10GA	12GA	12GA	12GA	14GA	14GA	16GA	16GA
CAPACITY, STAINLESS	12GA	12GA	14GA	14GA	14GA	16GA	16GA	18GA	18GA
CUTTING LENGTH	60"	72"	52"	60"	72"	52"	60"	52"	60"
RAKE OF UPPER BLADE/PER FOOT	5/16"	3/8"	5/16"	5/16"	5/16"	5/16"	5/16"	5/16"	5/16"
MOTOR, 1800 RPM-HP	20	20	15	15	15	10	10	7½	7½
STROKES PER MINUTE	300	300	300	300	300	300	300	300	300
FLOOR SPACE	142x42	156x42	103x43	111x43	127x45	100x40	105x40	94x36	102x36
OVERALL HEIGHT	55"	62"	54"	55"	64"	53"	53"	48"	48"
ESTIMATED SHIPPING WEIGHT	14,600	17,080	6,900	8,170	10,350	5,160	6,500	4,360	5,070



## SAFETY PRECAUTIONS

### SAFETY PRECAUTIONS TO BE OBSERVED WHEN SETTING-UP, OPERATING AND MAINTAINING A HIGH SPEED SHEAR

Thoroughly read and understand all operation and maintenance instructions before attempting to operate or maintain the machine.

Always open and lockout the electrical disconnect before performing any maintenance in the areas of point of operation of the shear, or before attempting to replace any electrical part.

Never operate machine with guards and covers open or removed.

Never place selector switch in "Jog" position with the flywheel turning unless the knife blade is clear to operate.

Always close the main air valve and bleed off accumulated air before disconnecting air lines, valves, filter, lubricator or regulator.

Always read the warning signs on every machine.

# WARNING

## TO PREVENT SERIOUS BODILY INJURY

**NEVER** PLACE ANY PART OF YOUR BODY UNDER THE HOLDDOWN OR RAM (SLIDE) MECHANISMS; OR WITHIN THE KNIFE BLADE AREA.

**NEVER** OPERATE, INSTALL KNIFE BLADES, OR MAINTAIN THIS MACHINE WITHOUT PROPER INSTRUCTION AND WITHOUT FIRST READING AND UNDERSTANDING THE OPERATORS OR MACHINE MANUAL.

**NEVER** OPERATE WITHOUT FINGER GUARD PROPERLY INSTALLED.

**NEVER** HAVE MAIN OR BACKGAUGE MOTORS "ON" DURING REMOVAL, INSTALLATION, OR ADJUSTMENT OF KNIFE BLADES; SCRAP CLEANOUT; OR, FOR ANY SERVICING/MAINTENANCE WHATSOEVER.

IT IS THE EMPLOYER'S RESPONSIBILITY TO IMPLEMENT THE ABOVE AND ALSO TO PROVIDE PROPER DEVICES OR MEANS THAT MAY BE NECESSARY OR REQUIRED FOR ANY PARTICULAR USE, OPERATION SET-UP OR SERVICE.

**DO NOT REMOVE THIS SIGN FROM THIS MACHINE**

SAFETY WARNING SIGN



## RECEIVING INSTRUCTIONS

All WYSONG High Speed Shears are carefully inspected, crated, and leave our plant in perfect condition.

For your protection examine crates, containers, and protective covering promptly upon receipt.

Any external evidence of loss or damage must be noted on the freight bill or express receipt, and signed by the carrier's agent. Failure to list loss or damage, may result in the carrier refusing to honor your claim. File your claim promptly.

Concealed loss or damage means loss or damage which does not become apparent until the crate and covers have been removed. Contact the carrier as soon as the concealed loss or damage is discovered. Make a WRITTEN REQUEST for inspection at once and hold the equipment for the transportation company's inspector. File your claim with the carrier since such loss or damage is his responsibility.

## INSTALLATION

The high-speed shear should be installed indoors on a solid floor, which is level and free from vibration. Ideally the foundation should be six or more inches of steel reinforced concrete depending upon underlying soil conditions.

The machine may be secured to the foundation using anchor bolts, lag screws or inserts.

Double end frame shears should be installed on a six inch high, steel reinforced concrete, raised platform to provide the additional clearance required for the large flywheel.

After uncrating the shear, remove all small parts and cartons from the skid. Remove the flywheel/clutch cover and check for any loose parts packed in that area. Check each item against the packing slip located in the envelop secured to the shear. Should any part be missing without a letter of explanation, contact WYSONG for instructions.

Before removing skids, move the shear to the operating location. The shear can be placed by means of a crane, overhead hoist, fork lift or jacks. Determine that all lifting devices, chains and cables are of sufficient capacity to handle the weight of the shear. Use care not to damage oil lines, air lines or electrical conduits when installing chains for lifting.

After positioning, clean off all rust preventative and protective coatings, using mineral spirits. Recoat the machine with a light coat of lubricating oil.

Using a precision level at various points on the table surfaces, level the machine to within .0005 inch per foot, front to back on each side, and right to left.



Insert shims as needed, to level and to maintain a firm foundation. Shim stock should be the width of the frame base and long enough to extend beyond the mounting bolts.

#### NOTE

*Never use any type of compressible material as shims under shear for shock or vibration dampening. This will permit twisting during shearing and can result in damage to ways and bearings.*

When you have determined the shear is level, tighten all mounting bolts. Recheck to see that levelness is maintained. If not, make correction and re-tighten mounting bolts.

Shears should be checked every ninety days to ascertain that perfectly level operation is being maintained.

### POWER CONNECTION

Electrical connections must be made by a qualified electrician in full accordance with the latest edition of the National electrical code. High speed shears are connected at the factory for the A.C. input voltage specified by the customer. The connections at transformer (T-1) and at the main drive motor should agree with the service voltage available. Do not jog motor to check rotation until preliminary check of blade clearance is accomplished.

### PNEUMATIC SUPPLY

The air supply line to the shear should be fabricated from at least 3/4 inch pipe. The system air pressure should be at least 85 P.S.I. air which is clean and dry will provide maximum efficiency and reliability. In areas of high humidity, a suitable moisture trap may be required. The filter bowls provided on the machine are sized to trap the moisture which occurs in the machine lines only. Manual drain valves should be opened daily to remove accumulated water.

### BLADE ADJUSTMENT

Proper Blade clearance is mandatory to obtain quality work and maximum blade life from your shear. The blade clearance should be checked upon installation to be sure that no change occurred in transit.

The clearance must also be checked whenever blades are turned or when any adjustment has been made to the ram or knife bar gibs.

To adjust

1. Open and LOCKOUT electrical power disconnect.
2. Remove the flywheel belt guard.
3. With air applied to the machine, manually release the brake by pushing in the manual release button on the brake solenoid valve turning it  $\frac{1}{4}$  revolution.
4. Jog the knife bar down by turning the flywheel by hand and manually engaging the clutch by pushing in the manual engagement button on the clutch solenoid valve.

*Be sure hands do not get caught between belts and flywheel.*



5. When the corners of the upper blade are about to touch the lower blade, check for any blade interference. If there is interference between the blades, back the table out by loosening the table end bolts and adjusting the table adjust screws until interference is eliminated. The table adjustment screws are located on each end of the table. The two square head set screws, with lock nuts, are used to move the table IN, thus decreasing clearance between blades. The Allen Head cap screw is used to pull the table away from the knife bar, thus increasing clearance between blades. Use the control screws alternately so as not to force one screw against the other and to maintain complete control over the table at all times.

**IMPORTANT**

**REMOVE COVER TO LOOSEN TABLE BOLT WHEN  
ADJUSTING BLADES.**

*COVER CAUTION*

6. After checking for blade interference, jog the knife bar on down until the corners of the upper blade just overlap the lower blade. Use a feeler gauge to check for the same clearance at both ends of the blade. The clearance should be the same as that listed on the metal tag attached to the machine. Due to the inclined travel of the ram, the reading will not be correct if checked at any other point.
7. If there is any deviation from the factory tag clearances at the end points, adjust the table per paragraph 5.

IMPORTANT

MACHINE MUST BE LEVEL

BEFORE STARTING SHEAR TURN FLYWHEEL OVER BY HAND  
TO BE SURE BLADES CLEAR EACH OTHER

BLADE SETTINGS SHOULD BE AS FOLLOWS:

■ EACH END ■ CENTER

SEE OPERATION AND MAINTENANCE MANUAL FOR BLADE  
SETTING PROCEDURE

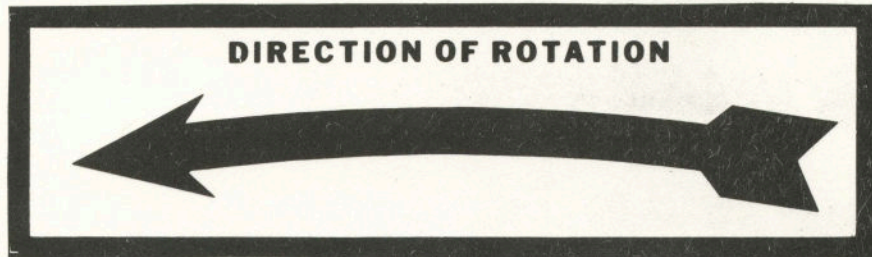
ON SHEARS WITH DOUBLE END HOUSING FILL END FRAMES  
WITH ESSO ESSTIC 50 OIL OR EQUIVALENT BEFORE STARTING MACHINE

*BLADE SETTING*

8. Continue to jog the knife bar down, stopping to check the blade clearance in between each blade bolt. Alternately check corresponding points on each end of the blade for the same clearance.
9. Should the blade clearance need adjusting, use the two sets of knife bar adjusting screws adjacent to the point being checked to set the blade clearance. The socket head set screws are used to increase the blade clearance, and the socket head cap screws are used to decrease the blade clearance.



10. After checking the blade clearance, tighten all bolts and release the manual button on the brake solenoid valve. Replace the flywheel guard.
11. Power may now be applied to the shear to bring the knife bar to the up position. Place the selector switch in JOG position and jog the motor with the START button. Determine that the rotation of the flywheel corresponds to the direction arrow. If the rotation is incorrect, disconnect the electrical power and interchange two input leads at the motor connections.



*DIRECTION OF ROTATION*

12. Recheck the blade clearance by jogging the motor to lower the knife bar.

### KNIFE BAR WAY ADJUSTMENT

The ram way running clearance is factory set for .0015 to .002 inches. This clearance should be checked every 3 to 6 months depending upon usage. To check check, slip a feeler gauge between the wear plate and the ram, along the lower rear surfaces or the top front surface. If .003 inches clearance is noted, adjust as follows:

1. Loosen the bolts on the knife bar gibs, one side at a time.
2. Remove the laminated shim stock and peel off one layer which is .003 inches thick. Replace shim stock and tighten knife bar gib bolts.
3. Recheck running clearance. If less than .0015 inches is noted, add .001 inch thick shims top and bottom, until the proper clearance is obtained.
4. After proper adjustment is made on one end, continue with adjustment on the other end.
5. After adjusting running clearance of the knife bar, recheck the blade clearance and readjust if necessary.

### LUBRICATION

A central lubricating system protects WYSONG high speed shears. The system consists of a lubricator pump which periodically forces a measured volume of oil into a distribution manifold. The manifold junctions supply oil to the bearing surfaces through meter-units which proportion the correct oil film to each bearing.



The system is pre-set at the factory for best operation. The piston type lubricator pump is actuated by reciprocating motion from the machine. Oil volume is determined by the stroke setting of the pump. Discharge frequency is determined by the ratchet and gear train which transmit the reciprocating motion to the pump-operating cam.

On shears with double end housings, remove the cover plate and fill each end frame to the oil level line. On shears with single end frames fill the oil reservoir to the indicated level. Use ESSO ESSTIC 50 OIL or equivalent.

The following procedure should be used; before starting a new machine, daily during the first two weeks of operation, and any time after the machine has been standing for a week or longer.

Pull and release "Instant Feed Button" several times until oil shows freely at all bearings. The "Instant Feed Button" is located on top of pump assembly.

Check oil level daily and fill reservoir when required. REPLACE FILTER ASSEMBLY ANNUALLY. Check system periodically for loose or broken tubing, worn hoses, loose fittings and connections.

SERVICE: TOO LITTLE OIL AT ALL BEARINGS - Check for low oil level, broken or cracked tubes, loose connections, flattened lubricator outlet tube, or clogged filter. If all are satisfactory and machine is running at operating temperature, increase oil feed. Carefully disconnect drive and discharge line, remove lubricator from reservoir, and increase stroke adjustment gap. Do not increase gap opening more than  $1/32$ " at a time. To adjust loosen allenhead lock screw, turn knurled stroke adjustment nut right, tighten lock screw. TOO MUCH OIL AT ALL BEARINGS - After full run-in period of machine, reduce oil feed. Turn knurled stroke adjustment nut left to reduce stroke adjustment gap - not more than  $1/32$ " at a time. IF ONE BEARING RECEIVES TOO MUCH OR TOO LITTLE OIL - Remove and replace the meter-unit. Don't attempt to adjust, disassembly, blow through, or drill out meter-units.

On some machines lubrication is provided by means of a one-shot system which uses a manually operated spring discharge, piston pump in a reservoir. Pushing down the handle against the stroke adjustment stop fills the cylinder with a predetermined volume of oil. Spring pressure discharges the oil into the distribution system automatically, and returns the handle to the original position. Operate the lubricator 5 times daily during continuous operation of the shear. To change the oil feed volume on a manual lubricator, adjust the stroke adjustment screw in or out.

Before starting a new machine equipped with a manual one-shot lubricator, pull hand lever until full pressure of the pump is indicated on the pressure gauge. Allow pressure to bleed down and recharge 8 to 10 times to completely fill oil grooves in bearings and ways. Follow this procedure during break-in operation and any time machine has been standing for a week or more.



All linkage and operator pin points on the lubricator ratchet drive, cam switch, and the roller chain should be lightly oiled weekly.

The flywheel bearings should be relubricated at 6 month intervals using a lithium base grease conforming to NLG-1, grade 2 consistency. A light viscosity, low torque grease, rust inhibited and water resistant, with a temperature range of  $-30^{\circ}$  to  $+200^{\circ}$  F allowing intermittent highs to  $+250^{\circ}$  F.

## BLADE CARE

Like all WYSONG power shears this machine has solid steel, high alloy shear blades with four cutting edges on the bottom blade and four edges on the top blade. Blades are quickly and easily reversible when one edge is dull. The multiple shearing edges prolong blade life considerably. Never permit the blades to rub each other. Lubricate the blades with a light oil when shearing stainless steel or galvanized material. Brush oil on the lower blade only; the upper blade will pick up oil during the shearing cycle. Keep the blades sharp. Turn or change blades as soon as a bur is noted on the sheared stock. It is recommended that a spare set of blades be held in stock so as not to impair production during regrinding.

After all four edges have been used, it will be necessary to regind the blade. Blades should be ground so that the variation is no greater than .001 inches within any 12" length and .002 inches from end to end.

When reinstalling reground blades, install shim stock under the lower edges to bring the blade up flush with the table.

## WARNING

POWER MUST BE DISCONNECTED FROM THE SHEAR WHEN WORKING IN THE AREA OF THE BLADES. USE EXTREME CARE WHEN HANDLING BLADES, THEY ARE SHARP AND CAN CUT HANDS IF ALLOWED TO SLIP OR TWIST.

## PNEUMATIC FILTER-REGULATOR /LUBRICATOR

The lubricator is adjusted at the factory and should not require further adjustment. Normal adjustment will allow four drops of oil per minute.

The drip rate is monitored through the sight-feed dome, and is adjusted by the oil feed adjustment screw located in the top of the lubricator.

The lubricator should be filled when required with a good grade of non-detergent petroleum base oil with a viscosity conforming to SAE 10.

The filter element should be cleaned periodically by washing in a cleaning solvent.



Clean the lubricator or filter bowl with warm water or kerosene. The polycarbonate bowl material is partly soluble in aromatic hydrocarbons and chlorinated hydrocarbons.

The regulator should be set at 85 P.S.I. for most applications; however, if the application requires maximum cyclic speed and the line pressure is greater than 100 P.S.I., the regulator may be set to 100 P.S.I.

## BELT ADJUSTMENT

The belts on the drive motor should be tight enough to prevent any slippage. Belt slipping will be noted by a noise when the start button is pressed. This noise disappears when the flywheel reaches running speed. The belt adjustment is located on the motor base. The belt is tightened by moving the motor away from the flywheel and is loosened by moving the motor toward the flywheel.

## BRAKE OPERATION AND ADJUSTMENT

The brake is designed to operate fail-safe. It is automatically engaged when spring pressure on the release plate forces the center plate and the friction disc together. The brake is released by forcing compressed air into the air tube. This air pressure expands the airtube, forcing the holding plate out, which in turn pulls the release plate back, compressing the springs and releasing the pressure on the center plate and friction disc. When the air is released, the spring pressure is again applied which sets the brake. Speed of disengagement depends on the air pressure available at the brake. Approximately 50 P.S.I. is needed to overcome a full complement of springs.

Brakes should be periodically checked for minimum clearance as follows:

8", 11", 14", 16", 18" and 21" sizes 1/16" to 3/32"

24", 24-H", 27", 30", 30-H", and 36" sizes 3/32" to 3/16"

Two-plate brakes should have approximately  $1\frac{1}{2}$  times the clearance of single plate units.

Proper clearance is obtained by the use of shims between spring plate and ring. Shims are also used between airtube holding plate and spring release plate to obtain proper travel.

Excessive clearance will cause the brake to lose capacity. The clearance can be reduced by removing shims or replacing the worn friction disc. Friction discs should be replaced when actuating assembly approaches its limit of travel.

## CLUTCH OPERATION AND ADJUSTMENT

Air is fed to the clutch airtube through a roto-coupling. Air pressure expands the airtube and squeezes the cast iron plates and friction discs together. The clutch will respond in direct proportion to the applied air pressure. In order to get uniform performance from the shear it is necessary to maintain all air lines and fittings in a leak tight condition.



Clutches should be periodically checked for minimum clearance as follows:

6", 8", 11", 14", 16" and 18" sizes	1/16" to 3/32"
21", 24", 24-H", 27", 30" and 30-H" sizes	1/8" to 3/16"
36", 42" and 48" sizes	3/16" to 5/16"

Two-plate clutches should have approximately one and one-half times the clearance for single-plate units.

Linings should be replaced when the airtubes expand the distances given below:

6" size .....	3/8"	24-H" size .....	5/8"
8" size .....	7/16"	30" size .....	5/8"
11" size .....	1/2"	30-H" size .....	11/16"
14" size .....	1/2"	36" size .....	3/4"
18" size .....	1/2"	42" size .....	3/4"
21" size .....	9/16"	48" size .....	3/4"
24" size .....	9/16"		

If the clutch tubes are allowed to expand greater than the amount shown above, the usable life will be materially reduced.

Expansion can be checked by watching the movement of the pressure plate, when it is operated by the airtube. Careful check of clearances and expansion will assure long tube life and trouble free service.

## OPERATING INSTRUCTIONS

The operating controls and their functions are as follows:

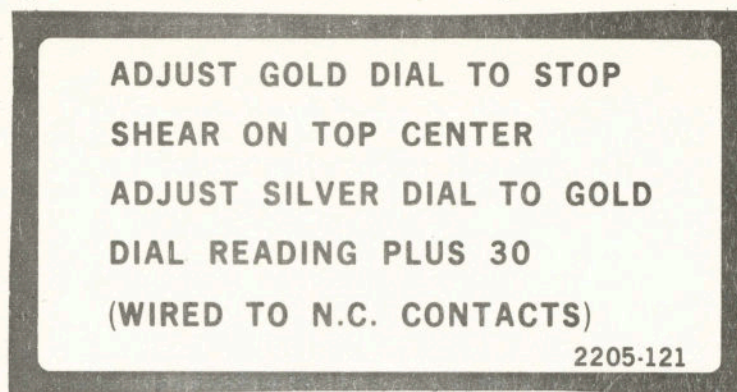
1. Close disconnecting switch to apply power to the line side of the motor starter and control transformer.
2. Place the selector switch H (S-1) in "Run" position.
3. Press the "Start" Button (PB-2), the motor should start and continue to run after the button is released. The motor run indicating light should be lit. The motor may be stopped by pushing the "Stop" Button (PB-1).
4. To operate the shear, press the "Run" Button (PB-3) or furnish an external contact closure between terminals 13 and 16. The shear will perform one cycle and stop. The "Run" button must be pressed and released for each cycle.
5. To stop the shear at any point in the cycle press the "Emergency Stop" mushroom head button (PB-4).

If machine will not start after an emergency stop, due to the rotary cam switch circuit not closing, place the selector switch in "Jog" position and jog machine until the cam switch has reclosed. Place selector switch to "Run" position and push "Run" Button. Machine will return to normal position.



Customer remote control switch is connected between terminals 13 and 16 as shown on schematic diagram.

Adjust the rotary cam switch per the instruction plate shown below:



#### ROTARY CAM SWITCH ADJUSTMENT

High or low D.C. control voltage can be corrected by reconnecting transformer T2.

### SEQUENCE OF OPERATION

Refer to Electrical Schematic S-71-297

Closing the main power, disconnect energizes L1, L2 and L3. Transformer T1 secondary provides 115 VAC control power through fuse (F1) and the normally closed STOP pushbutton, to the START pushbutton and the RUN-JOG selector switch. With the selector switch in the "Run" position as shown, operating the start button applies power to the coil of motor starter (M1). Auxiliary contacts of M1 on Lines 4 and 6 close to seal in M1 and to pick up relay CR1. The motor will run until the stop button is pushed or an overload contact is opened.

The contacts of relay CR1 on Line 7 close to energize autotransformer T2 which provides AC voltage to the full wave rectifier.

DC control power from the rectifier through fuse F2 is ripple smoothed by capacitors C1A and C1B. Available at the customers connection terminal 13 and to the "Run" pushbutton this power is applied through N.C. contact CR3 and the emergency stop pushbutton to control relay CR-2 whenever the "Run" button is pressed or a remote signal closes the circuit.

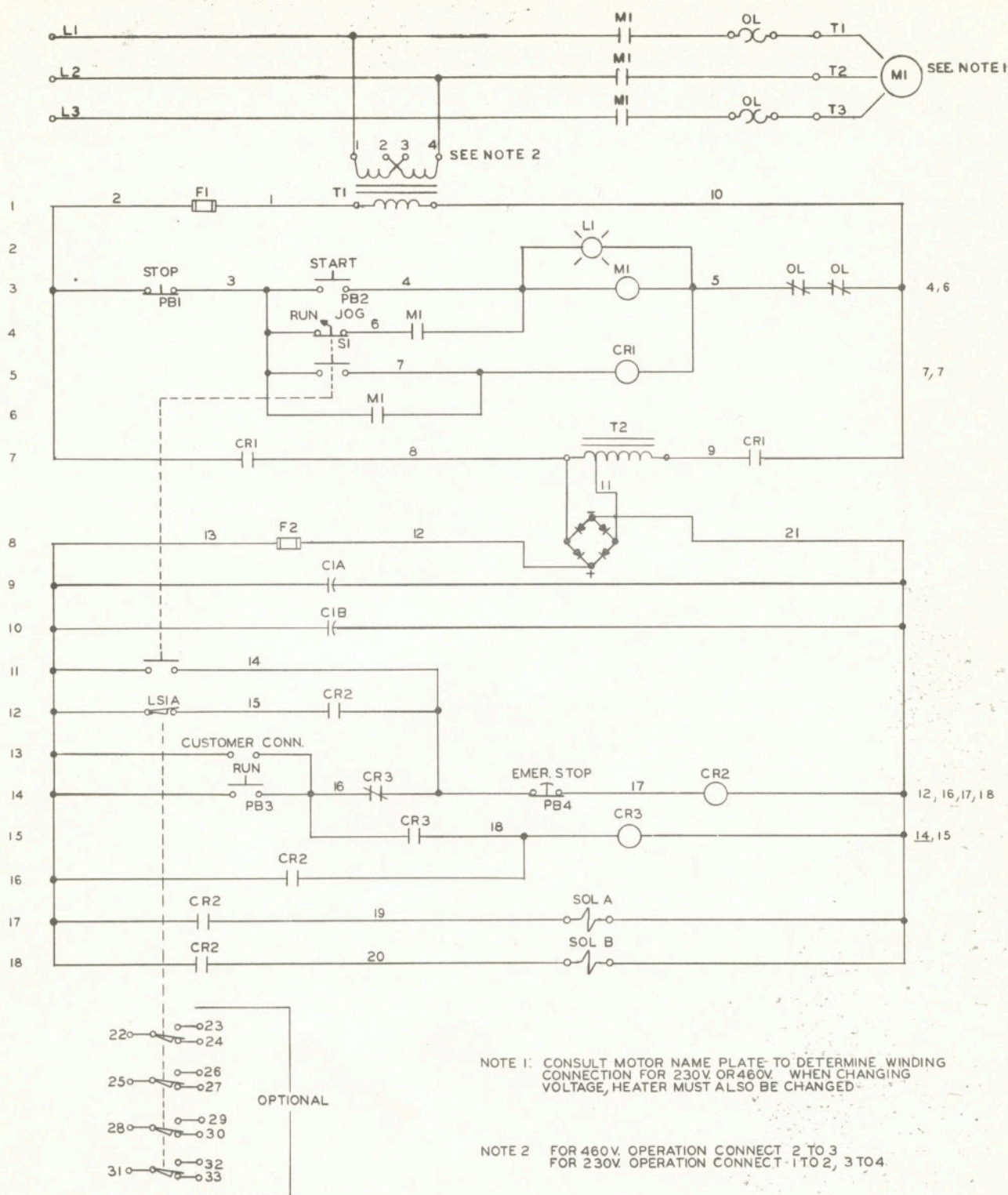
Relay CR2 is held closed by the CR-2 contacts on line 12 and the rotary cam switch LS1A for 1 cycle only. The set of N.O. CR-2 contacts on line 16 energize relay CR-3. Contacts on lines 17 and 18 energize solenoids A and B which release the brake and engage the clutch.

Control relay CR3 functions as an anti-repeat relay by opening the N.C. CR3 contacts on line 14 and holding CR3 closed through the N.O. CR-3 contacts on line 15 until the run button is released.

CR-2 may be dropped out at any time to stop the machine in mid-cycle by pushing the emergency stop pushbutton.

When the selector switch (S-1) is placed in the "JOG" position, motor starter M1 cannot hold in from the M1 contacts. The motor only runs while the start button is pressed. Relay CR1 is picked up through a S-1 contact and CR2 is picked up through another S-1 contact.

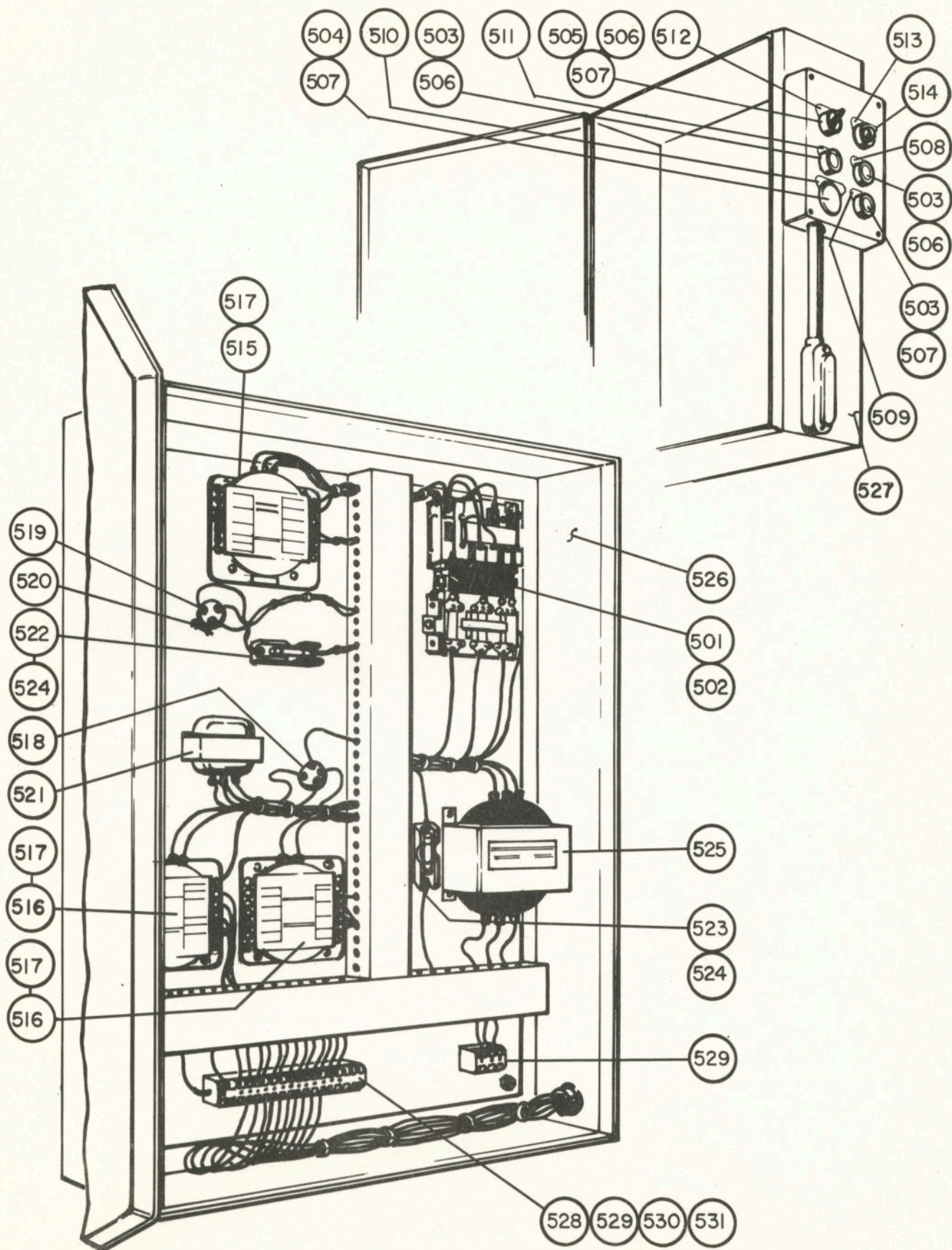




D.C. CONTROL FOR AIR CLUTCH HIGH SPEED SHEARS

S-71-297







ELECTRICAL PARTS LIST  
STANDARD DC CONTROL FOR AIR CLUTCH HIGH SPEED SHEAR

<u>ITEM NO.</u>	<u>QUANTITY</u>	<u>DESCRIPTION</u>	<u>DESIGNATION</u>	<u>PART NUMBER</u>
501	1	Motor Starter: Size 1, 3 pole, 110 V Coil	M1	4150-201
		Size 2, 3 pole, 110 V Coil		4150-301
		Size 3, 3 pole, 110 V Coil		4150-401
502	1	Auxiliary Contact N.O. Size 0, 1, 2, 3,		4102-003
503	3	Pushbutton Operator w/Shroud	PB1, 2, 3	4128-002
504	1	Pushbutton Operator w/Mushroom Head, Red	PB-4	4128-004
505	1	Selector Switch Operator 2-Pos	S-1	4160-001
506	4	Contact Blocks N.O. Add On Type		4130-001
507	3	Contact Blocks N.C. Add On Type		4130-002
508	1	Legend Plate Start		4122-002
509	1	Legend Plate Stop		4122-004
510	1	Legend Plate Emerg. Stop		4122-030
511	1	Legend Plate Run		4122-005
512	1	Legend Plate Run-Jog		4122-031
513	1	Legend Plate Motor-Run		4122-050
514	1	Pilot Light w/Trans., 6V Bayonet Lamp	L1	4126-003
515	1	Plug-In Relay w/110V AC Coil	CR1	4136-009
516	2	Plug-In Relay w/110V DC Coil	CR2, 3	4134-006
517	3	Receptacle		4136-012
518	1	Rectifier Single Phase Bridge 6A		4129-029
519	1	Capacitor 100 MFD, 150 V	C1	4179-043
520	1	Mounting Ring		4179-071
521	1	Auto-Transformer 95-135-115VAC	T2	4177-140
522	1	Fuse, Cartridge Type BAF-1, 1 amp, 250 V	F1	4326-023
523	1	Fuse, Cartridge Type BAF-3, 3 amp, 250V	F2	4326-039
524	2	Fuse Block		4329-023
525	1	Transformer .3 KVA 230/460-115 V	T1	4177-008
526	1	Enclosure Nema I, 24 x 20 x 6-5/8		4320-104
	1	Enclosure Nema I 30 x 24 x 8-5/8 Size 3 Starter		4320-156
527	1	Enclosure, 6 Unit Pushbutton		4324-005
528	AR	Terminal Block Single Unit		4175-001
529	AR	Terminal Block 3-Unit		4175-002
530	AR	Terminal Block Mounting Rail		4175-003
531	AR	Terminal Block Marking Strips		4175-004



When ordering parts be sure to give the following information:

- (1) Model number of High Speed.
- (2) Serial number of machine. ( Located on the table right side.)
- (3) Part number from parts list.
- (4) Complete description of part required.
- (5) Required delivery and how to ship.

PARTS LIST FOR

HS-760-RKB HIGH SPEED SHEAR, 300 SPM

ITEM NO.	QTY.	DESCRIPTION	PART NUMBER
<u>BRAKE ASSEMBLY</u>			
403	1	Brake, ATD-218 LI, Wichita	3438-352
*	3	Muffler Type B48 1/2 NPT Bantam	3774-070
408	1	Spacer, Brake Hub	7115-236
91	1	Mounting Plate	7171-520
92	1	Top Center Pointer	2205-172
437	1	Sprocket-Limit Switch Drive	7115-231
*	1	Key-Timing Pulley	7171-525
438	1	Sprocket-Limit Switch Driven	7115-228
434	1	Bracket -Limit Switch Support	7115-241
432	1	Nameplate, Adjustment Reminder,	2205-121
430	CTL	Chains, Roller No. 35	3430-035
431	1	Links, Chain, Conn., No. 35	3430-235
433	1	Switch, Rotary Cam,	4120-070
<u>TABLE ASSEMBLY</u>			
1	1	Table	AC-247
31	1	Cover, Core Pocket	ACS-266
12	11	Bolt, Blade, 5/8 x 4	3342-026
11A	1	Blade 4-Edg 63 X 4 x 1	4720-366
29	2	Table Bolt Locking Plate	S25S-263
30	2	Locks, Table Bolt	S25S-281
*	8	Table Bolts, 1-8 x6	3308-137
*	8	Table Bolt Washer	8FS-084
44	1	Stripper Bar	ACS-749



## PARTS LIST FOR

HS-760-RKB HIGH SPEED SHEAR , 300 SPM

ITEM NO.	QTY.	DESCRIPTION	PART NUMBER
<u>RAM ASSEMBLY</u>			
4	1	Knife Bar	AC-111
4A	1	Rib, Knife Bar Horizontal	AC-142
*	10	Plug ( Horizontal Rib )	ACS-188
4B	3	K Bar Stud	ACS-228
9	2	Eyebolt	ACS-302
9A	2	2" Whole Nut	3319-018
9B	2	2" Jam Nut	3320-015
8	2	Gib ( Front )	MG-021
7	2	Gib ( Rear )	MG-022
*	10	Pin, Dowel, 5/8 x 1-1/2	3333-015
12A	11	Bolt, Blade., 3/4 x 5	3342-034
18	2	Inside Counter Balance Spring	3504-662
17	2	Outside Counter Balance Spring	3504-770
11	1	Blade, 1.500 x 4 x 63 LG (BT-7)	4718-252
*	2	Wedge, .687 x 30.500 LG	4719-252
*	2	Spacer	ACS-256
20	2	Base Lower Spring Seat	S10S-032
15	2	Bar Spring Compression	S10S-183
19	2	Seats, Bottom Spring	7N-030
16	2	Seat, Top Spring	7N-031
<u>END HOUSING ASSEMBLY</u>			
3	1	Housing, R.H. End	AC-072
2	1	Housing, L.H. End	7014-405
27	2	Lug, Table Adj.	7K-069
*	2	Pin Dowel	8GS-108
*	2	Gibs, Ram (Rear )	S25-061
*	2	Knife Bar Take Up Gib ( Front )	7NS-014
*	2	Oil Baffle	ACS-421
2A	2	Cover Front	S10S-257
2B	2	Covers Side	S10S-258
*	2	End Frame Top Cover	S25S-164
2C	2	Rear Cover	S30S-055



HS-760-RKB HIGH SPEED SHEAR, 300 SPM

ITEM NO.	QTY.	DESCRIPTION	PART NUMBER
<u>AIR CLUTCH - FLYWHEEL ASSEMBLY</u>			
450	2	Brg. S. Row RAD, 6217RS/C3	3178-260
400	1	Clutch, ATD-218 LI, Wichita/Dwg 3432-352-Shear	3432-352
401	3	Muffler No. B48 1/2 NPT Bantam	3774-070
407	1	Retainer-Clutch Hub	7115-146
444	1	Retainer-Brg.	7115-286
445	1	Spacer-Flywheel Brg.	7115-335
77	1	Assembly, Flywheel	7314-007
*	1	Spacer, Clutch Hub	7414-105
<u>MOTOR ASSEMBLY</u>			
227	1	Bracket, Motor Base	ACS-269
228	1	Shaft Motor Base Pivot	S10S-010
229	2	Ring, NO. 5100-100	3351-032
230	1	Motor Base	ACS-365
232	1	Bushing, Taper Lock, 2517 x 1-5/8	3401-024
232A	1	Sheave, Taper Lock, 4A6.0 - 4B6.4	3409-013
234	4	V-Belts, B-144, Matched Set of 4	3418-034
231	1	20HP 1800 RPM, 3/60/230-460V OpenT	4228-014
<u>ECCENTRIC SHAFT ASSEMBLY</u>			
409	2	Eccentric Locks	ACS-002
92A	1	Extension-Shaft, Top Center	7115-237
171	1	Key, Clutch	7115-243
405	1	Key-Brake End	7171-524
170	1	Shaft, Eccentric	7414-106
172	4	Key Eccentric	8GS-061
174A	2	Spacer, Eccentric	AC-075
174	2	Eccentric	AC-110
176	2	Strap, Eccentric	S10-075
177A	2	Plate, Keeper	S10-083
177	2	Pin, Connecting End	S10S-171
175	2	Eccentric Strap Bushing	3134-665
105	1	Bearing, Eccentric Shaft	AC-102
106		Bushing, Eccentric Shaft Bearing	3134-517
*	1	Seal-Oil ( 61121 ) ( AC-103 )	3211-075
199	1	Bearing, Outside L.H. Ecc. Shaft	S10-015
200	1	Bushing, Outside LH Eccentric Shaft Bearing	3134-510
*	1	Seal-Oil	3211-075
203	2	Bearing, Inside L.H. Ecc. Shaft	S10-031
202	2	Bushing, Inside LH Eccentric Shaft Bearing	3134-515



# HS-760-RKB HIGH SPEED SHEAR, 300 SPM

ITEM NO.	QTY.	DESCRIPTION	PART NUMBER
<u>SAFETY GUARDS</u>			
439	1	Guard-Upper Chain	7171-519
436	1	Guard-Lower Chain	7414-117
*	1	Guard Mounting Plate	ACS-245
*	1	Cover, Belt Guard Slot	ACS-241
233	1	Belt Guard	ACS-270
410	1	Guard, Front	ACS-247
<u>AIR CONTROL SYSTEM</u>			
412	2	Air Reservoir Bkt.	ACS-847
415	1	Receiver-Air	3780-020
414	2	Fasteners, Mak-a-clamp, w/ 3824-305 Band Stock	3824-303
424	1	Valve, Check, 3/4	3755-005
416	1	Fil/Reg/Lub 3/4 C4J-600-M3E-AU w/18-001-051 Norg	3772-004
417	2	Valve, Air 3-Way w/115V DC 57-12-684C	3751-008
*	2	Muffler, 1, AA-8, Quiet-Aire	3774-060
<u>LUBRICATION</u>			
	1	Plate, R.H. Adapter ( Oil Pump)	S10S-210
	1	Plate, L.H. Adapter ( Oil Pump )	S10S-568
	2	Rod Pump Pull	S10S-211
	2	Pin Short Auto, . Pump Rod	S10S-212
	2	Linkage, B-5017	3229-001
	2	Linkage, B-5022	3229-005
	2	Lubricator, RJA, D-2220 w/3239-003 3 pt. Reservoir	3233-001
	2	Gauge, Pressure, B-5611	3237-021



# Service Instructions

For systems with lubricator type "R--"

FIGURE 4

Your machine is protected by a built-in Bijur central lubricating system — by CORRECT lubrication of all bearings served, it assures smooth operation of your machine for years, if properly maintained.

The Bijur system consists of three basic elements: (1) a lubricator (pump) which periodically forces a measured volume of oil into (2) a single line of distribution tubing branched to supply oil to the bearing surfaces through (3) Meter-Units which proportion the correct oil film to each bearing.

**OIL:** Use only non-compounded clean mineral oil of type and viscosity recommended by machine manufacturer.

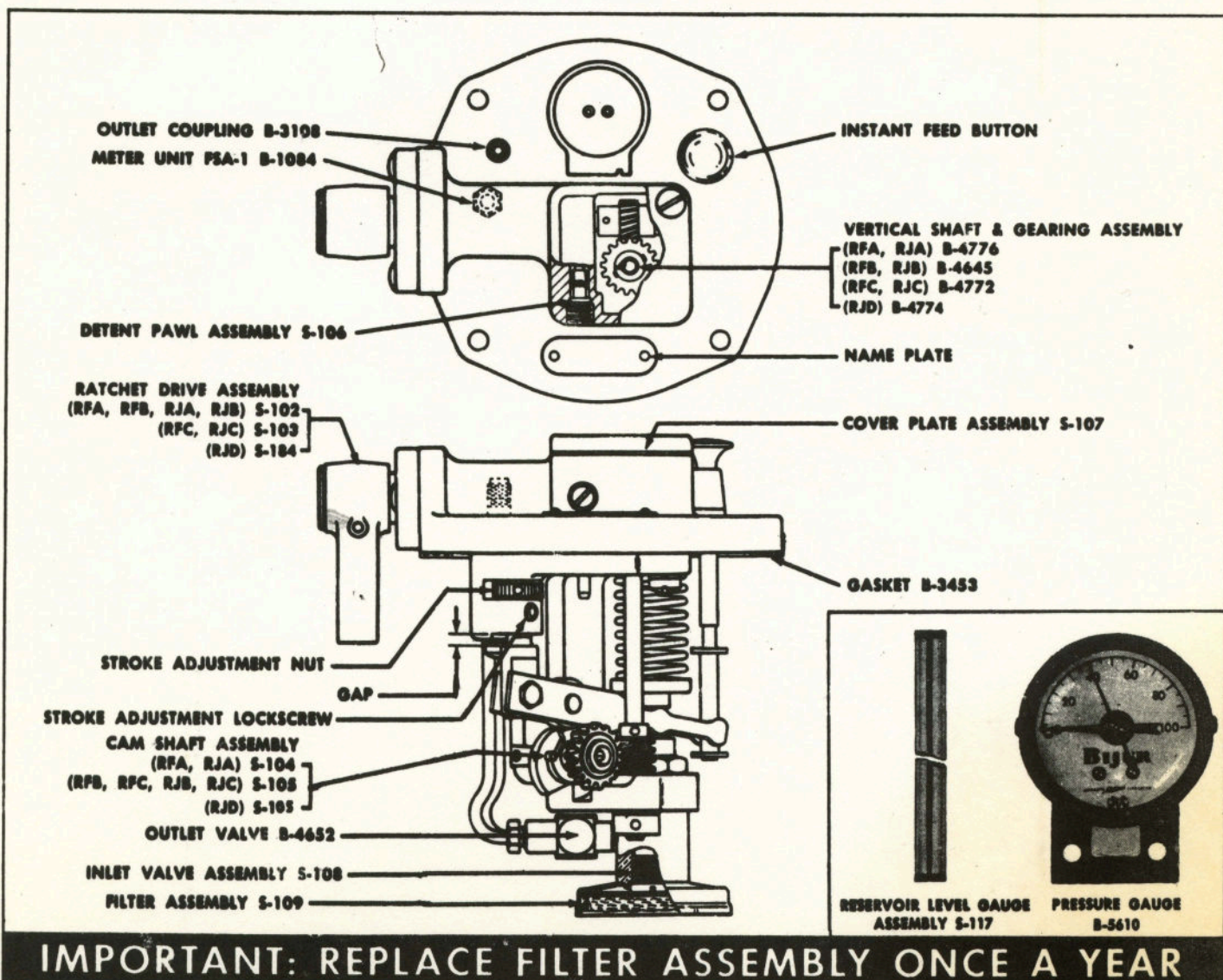
**OPERATION:** This fully automatic lubricating system is pre-set by the machine manufacturer for best operation. Lubricator Type R is a piston pump actuated by reciprocating motion from the machine. Oil volume is determined by the pump stroke setting; discharge frequency is determined by the ratchet and gear train which transmit the reciprocating motion to the pump-operating cam.

**STARTING A NEW MACHINE:** Fill reservoir before starting machine, pull and release "Instant Feed Button" several times until oil shows freely at all bearings.

**MAINTENANCE:** Check oil level daily and fill reservoir when required. Replace filter assembly annually. Check system periodically for loose or broken tubing, worn hoses, loose fittings and connections.

**SERVICE:** Too little oil at all bearings — check for low oil level, broken or cracked tubes, loose connections, flattened lubricator outlet tube, or clogged filter. If all are satisfactory and machine is running at operating temperature, increase oil feed. Carefully disconnect drive and discharge line, remove lubricator from reservoir, and increase stroke adjustment gap. Open gap not more than 1/32" at one setting (loosen lock screw, turn knurled stroke adjustment nut to right, tighten lock screw). If gap is found to be fully open, factory adjustment is required for further increase of oil flow. Too much oil at all bearings — after full run-in period of machine, reduce oil feed. Follow above procedure, turning nut to left to reduce stroke adjustment gap — not more than 1/32" at one setting. For too little or too much oil at one bearing, see other side.


**SERVICE PARTS:** Order by Part Number and Name shown below — you must also specify complete lubricator Type symbol and Serial letters shown on Name Plate\*. Example: "S-109 Filter Assembly for Lubricator Type RJA Ser. LF". Factory replacement is recommended for parts designated\*\*. For major repairs requiring parts not numbered below, return lubricator for factory rebuilding and adjustment. If a new lubricator is required for replacement, order by Type symbol and Serial letters shown on Name Plate\*. Prompt shipment can be made on parts and lubricators.





# Service Instructions

## For systems with lubricator type "D — —"

**BIJUR**   
automatic lubricating system

Your machine is protected by a built-in Bijur central lubricating system — by CORRECT lubrication of all bearings served, it assures smooth operation of your machine for years, if properly maintained. The Bijur system consists of three basic elements: (1) a lubricator (pump) which periodically forces a measured volume of oil into (2) a single line of distribution tubing branched to supply oil to the bearing surfaces through (3) Meter-Units which proportion the correct oil film to each bearing.

**OIL:** Use only non-compounded clean mineral oil of type and viscosity recommended by machine manufacturer.

**OPERATION:** This One-Shot lubricating system is pre-set by the machine manufacturer for best operation. Lubricator Type D is a spring discharge piston pump in a reservoir. Pushing down the handle against the stroke adjustment stop fills the cylinder with a predetermined volume of oil. Spring pressure discharges the oil into the distribution system automatically, and returns the handle to the original position. Lubricator must be operated at intervals recommended by machine manufacturer.

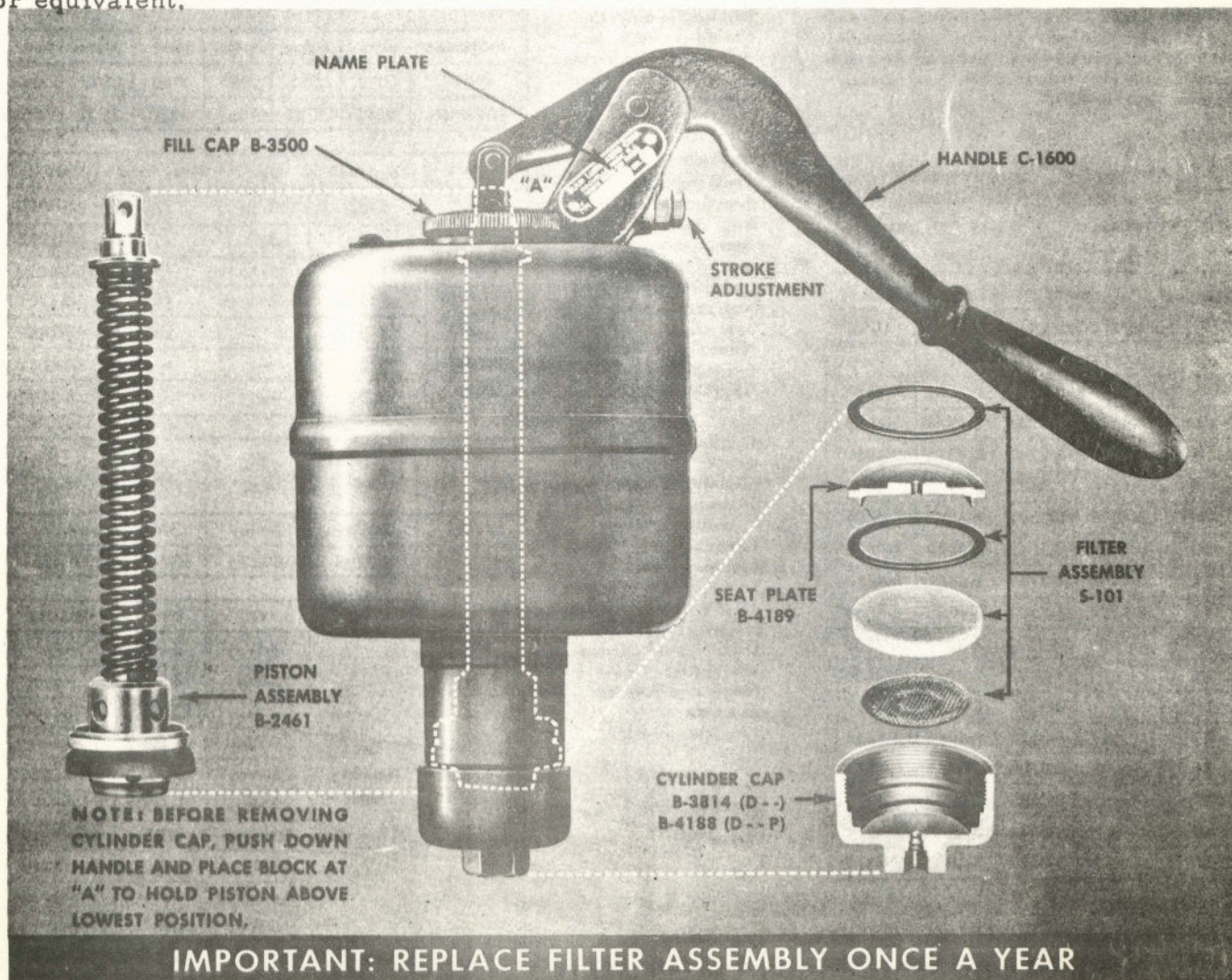
**STARTING A NEW MACHINE:** Fill reservoir; operate lubricator until oil shows freely at all bearings.

**MAINTENANCE:** Check oil level daily and refill reservoir when required. Replace filter assembly annually. Check system periodically. Be sure to use Esso Standard Oil Esstic 50 or equivalent.

ically for loose or broken tubing, worn hoses, loose fittings and connections.

**SERVICE:** Too little oil at all bearings — check for low oil level (handle snaps back if reservoir is empty), broken or cracked tubes, loose connections, flattened lubricator outlet tube, worn piston leather or clogged filter. If all are satisfactory and machine is running at operating temperature, increase oil feed. Loosen lock nut on stroke adjustment screw, turn screw in not more than two turns at one setting and reset lock nut. Run machine and check all bearing points thoroughly before further adjustment. Too much oil at all bearings — after full run-in period of machine, reduce oil discharge by turning out stroke adjustment screw — not more than two turns at one setting. For too little or too much oil at one bearing, see other side.

**SERVICE PARTS:** Order by Part Number and Name shown below — you must also specify complete lubricator Type symbol and Serial letters shown on Name Plate\*. Example: "S-101 Filter Assembly for Lubricator Type DIB Ser. LF." If a new lubricator is required for replacement, order by Type symbol and Serial letters shown on Name Plate\*. For major repairs requiring parts not designated below, return lubricator for factory rebuilding and adjustment. Prompt shipment can be made on parts and lubricators.





# Service Instructions • BIJUR Automatic Lubricating System

## SERVICE (Meter-Units)

If one bearing receives too much oil, remove Meter-Unit and replace with one of same type but next lower Flow Rate Number. For too little oil at one bearing, replace Meter-Unit with one of same type but next higher Flow Rate Number. Each increase in Flow Rate Number doubles oil feed. Don't attempt to adjust, disassemble, blow through or drill out Meter-Units.

FIGURE 3

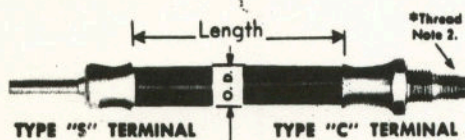
FSA or MSA	FJB or MJB	FRA or MRA	FJC or MJC	FRC or MRC	FJD	FKA or MKA	FKB or MKB
FTA or MTA	FTB or MTB	FTC or MTC	FTD or MTD	FTG or MTG	FTH or MTH	FTK or MTK	FTL or MTL

## SERVICE PARTS (Meter-Units)

Order by Name, Type and Flow Rate Number. Example: "Meter-Unit FSA-O". Note carefully:—F and M types are different, even though they look alike, and they are not interchangeable. Type (FJD, MTK, etc.), Flow Rate Number (00, 0, 1, 2, 3, 4 or 5) and flow direction arrow are stamped on body of each Meter-Unit. All types are illustrated below (arrows show flow direction). See "Thread Notes" at bottom of page.

## SERVICE PARTS (Distribution System)

**FLEXIBLE HOSE**—Available with 5/32 tube terminals both ends (Type SS), 5/16-24 thread both ends (Type CC), or one of each (Type SC). Measure flexible length between terminals, and order from table below. Specify Name and Part No. Example: "Flexible Hose, B-4863."



LENGTH (INCHES)	Type SS		Type CC		Type SC
	5/16" O.D.	7/16" O.D.	7/16" O.D.	7/16" O.D.	7/16" O.D.
4	B-4514	—	—	—	—
5	B-4515	B-2962	B-4873	B-4857	—
6	B-4516	B-3134	B-4874	B-4858	—
7	B-4517	B-2963	B-4875	B-4859	—
8	B-4518	B-3433	B-4876	B-4860	—
9	B-4519	B-2542	B-4877	B-4861	—
10	B-4520	B-3145	B-4878	B-4862	—
12	B-4588	B-3135	B-4879	B-4863	—
14	B-4589	B-3530	B-4880	B-4864	—
16	—	B-3531	B-4881	B-4865	—
18	—	B-3137	B-4882	B-4866	—
20	—	B-3532	B-4883	B-4867	—
22	—	B-3528	B-4884	B-4868	—
24	—	B-3508	B-4885	B-4869	—
27	—	B-3533	B-4886	B-4870	—
30	—	B-3534	B-4887	B-4871	—
33	—	B-3735	B-4888	B-4872	—

**TUBING**—Available in 12 foot lengths only. Check outside diameter, material and wall thickness. Order by Name and Part No. Example: "Tubing, 5B25."

**COMPRESSION FITTINGS**—Check tubing O.D. and thread and hex on nuts and bushings. See "thread notes" at bottom of page. Sleeves of proper tubing size are required for all connections. Order by Name and Part No. Example: "Bushing, B-3783."

**JUNCTIONS** — Check number of tapped holes—identify in tables from illustrations and number of mounting holes (untapped). All "One Mounting Hole" types shown. Typical examples of "Two Mounting Holes" types—both "Single" and "Double" are shown. Order by Name and Part No. Example: "Junction, B-3264."

	5/32" O.D.				3/32" O.D.	
MATERIAL	Brass	Copper	Copper	Steel	Copper	Steel
WALL	.025	.025	.055	.020	.022	.020
PART NO.	5B25	5C25	5C55	5S20	3C22	3S20

Item	Tube O.D.	Hex	See *Thread Note	Part No.
	5/32	3/8	2	B-1095
	3/32	3/8	3	B-3312
	3/32	5/16	4	B-3610
	5/32	3/8	2	B-1371
	5/32	5/16	2	B-3783
	5/32	—	—	B-1061
	3/32	—	—	B-3313

JUNCTION One Mounting Hole				
TYPE	2-Way	3-Way	3-Way	4-Way
PART NO.	B-3288	B-3065	B-1092	B-4231

JUNCTION Two Mounting Holes	TYPE	SINGLE	DOUBLE
	4-Way	B-3262	—
	5-Way	B-3263	—
	6-Way	B-3264	B-3109
	7-Way	B-3289	—
	8-Way	B-3265	B-3253
	9-Way	B-4508	—
	10-Way	B-3704	B-3254
	12-Way	B-3471	B-3249
	14-Way	—	B-4020
	16-Way	—	B-4025

\*THREAD NOTES—All unnumbered tapped holes 5/16-24 Bijur standard.

- |  |                                       |
|--|---------------------------------------|
| 1 5/16-24 for Bijur tapped holes only, | 4 1/4-28 for 3/32 tubing connections, |
| 2 5/16-24 for 5/32 tubing connections, | 5 1/8 pipe thread.                    |
| 3 5/16-24 for 1/32 tubing connections, |                                       |

