WYSONG SINGLE SPEED PRESS BRAKE
SERIES 190 & 225
Parts List & Instructions for Installation, Care and Use

When ordering repair parts, please refer to the item number, quantity, description, part number, model number and serial numbers of your machine. The serial number will be found stenciled on the table outside the right hand side gauge.

January , 1977

WYSONG SINGLE -SPEED PRESS BRAKE- SERIES 190 & 225

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INTRODUCTION

This manual is designed to provide practical installation, maintenance, and operational information for the Wysong Power Press Brake.

The following pages briefly describe the features of the Brake, normal precautions for the installation, operation and maintenance, trouble-shooting data, and a complete illustrated parts section.

Information contained in this manual will be useful in making necessary adjustments to the Wysong Power Press Brake to provide many years of productive service.

When writing to Wysong and Miles Company for information, please refer to your Brake by the Model and Serial Numbers. Use the Parts List for ordering replacement parts. Wysong and Miles Company reserves the right to make any changes deemed necessary in basic machine design or parts list without further notification.

WYSONG SINGLE - SPEED PRESS BRAKE - SERIES 190 & 225

DESCRIPTION

The Wysong 190 and 225 Ton, Single-Speed Power Press Brake is of rigid all steel construction with a frame structure of select steel plate, special interlocked construction, and contoured stress points. Twin-drive gears are totally enclosed in transmission housings on each end of the machine, running in a constant oil bath.

The hydraulically-controlled clutch is engaged through a toggle and shift collar assembly. When the shift collar assembly is moved out, the push plate is released, and the clutch is disengaged. A positive spring-loaded brake stops the ram as soon as the clutch is released. The deep bed and ram are designed with extra depth and one-piece steel plate. Non-metallic gibs provide reduced wear and score-proof gib ways.

Straddle pitmans and one-piece eccentrics place the entire load on the centerline of end frames for balanced direct loading. Solid bed support is provided with Wysong's unique floating suspension system.

The ram is power-raised and lowered for positive ram adjustment, and the lower die holder is adjustable to permit accurate alignment.

Standard features include a standard back gauge, centralized lubrication system, and reduced voltage control circuit.

Optional equipment includes a precision front-operated back gauge for critical as well as frequent gauging changes, and a direct reading dial indicator calibrated in thousanths of an inch for front operated back gauge adjustment.

SAFETY

NOTE: BEFORE OPERATING ANY MACHINE, ALWAYS REVIEW AND UNDERSTAND FULLY ALL RECOMMENDED OPERATING AND SAFETY INSTRUCTIONS. THE FOLLOWING IS A LIST OF BASIC SAFETY PRECAUTIONS THAT MUST BE OBSERVED AT ALL TIMES

REFERENCE: WYSONG & MILES PRESS BRAKE SAFETY BOOKLET

1. NEVER eliminate or bypass any part of the safety devices on the machine.
2. NEVER place any part of the body in the die area of the press brake.
3. NEVER tie down clutch actuating devices to provide continuous operation.
4. NEVER operate machine on leveling screws, which are supplied for initial leveling only. Machine must be shimmed to firm level position and bolted securely to foundation or floor.
5. NEVER leave any tools or instruments in or on machine at any time. Be especially careful when operating machine with multiple setups.
6. NEVER use any portion of the machine for hand tool or die storage.
7. NEVER reach into die area to lubricate, clean, or adjust. Use remote systems or long-handled instruments.
8. NEVER operate machine with flywheel, gear, brake, clutch, or other access covers or plates removed.
9. NEVER remove warning plates, instruction manual, or safety equipment from machine.
10. ALWAYS use safety tools, fixtures and supporting devices when changing die settings.
11. ALWAYS leave ram at bottom of stroke when machine is not in operation.
12. ALWAYS turn inch/off/run key selector switch to "off", safety cut-off to "off" and remove keys when machine is not in operation.
13. ALWAYS turn power switches off and remove key when machine is not in position.
14. ALWAYS turn key switches off, stop drive motor, open disconnect switch, and allow flywheel to come to a complete stop before making any adjustments or repairs, or when leaving machine.

1. INSTALLATION

A. UNLOADING AND HANDLING

1. Carefully examine your new WYSONG PRESS BRAKE shipment as soon as it arrives. If you find shipping damage, notify the carrier and file damage notices immediately.

2. If PRESS BRAKE is to be handled by crane, use lifting holes at the top of end frames. Be sure a spreader bar is in the sling to prevent side-loading the end frames.

3. The PRESS BRAKE IS TOP HEAVY to the front and must be handled with care, to guard against tipping.

4. If PRESS BRAKE is to be rigged or rolled to the foundation site, attach towing cables to skids. DO NOT ATTACH TOWING CABLES TO PRESS BRAKE!!!

   DO NOT REMOVE SKIDS UNTIL PRESS BRAKE HAS BEEN POSITIONED AT FOUNDATION SITE!!!

5. Remove skids by lifting PRESS BRAKE with a crane.

   CAUTION: See 2 and 3 above.

6. Temporarily bolt the PRESS BRAKE to the foundation when the skids are removed.

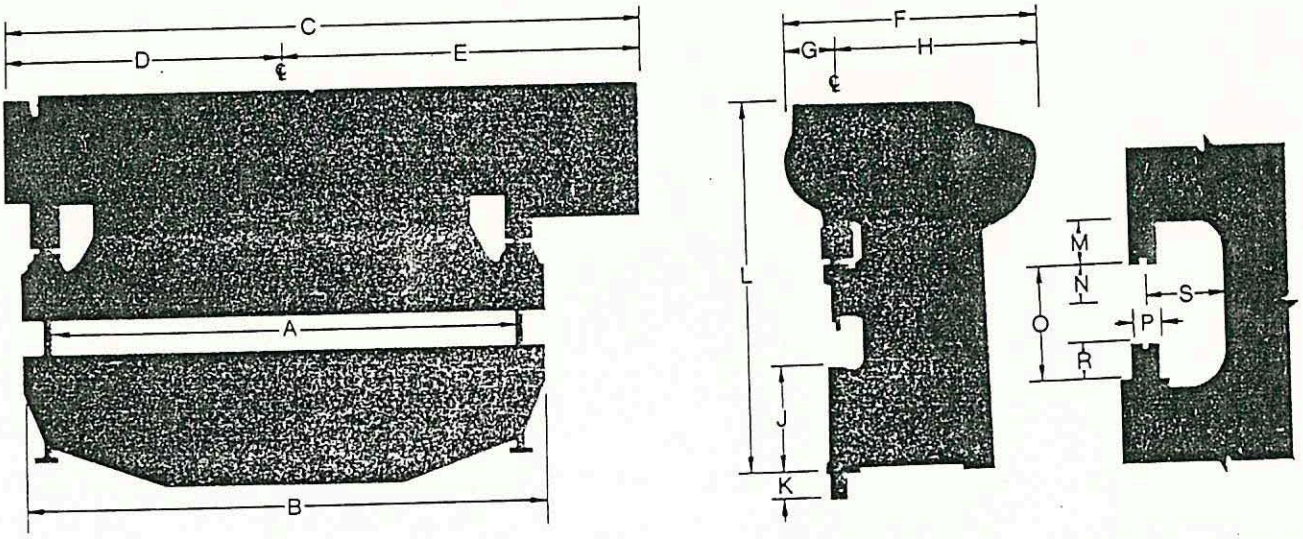
B. FOUNDATION (Reference Figure 1 below)

Note: Foundation bolt hole locations are approximate. Anchor bolts should be set in pipe to ensure proper bolt hole alignment.

Model	dimensions A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	R	S
190- 4	54	72	124	47	77	88	17	71	34	—	126	3	5	12	3	5½	8½
190- 6	78	96	148	59	89	88	17	71	34	—	126	3	5	12	3	5½	8½
190- 8	102	120	172	71	101	88	17	71	34	—	126	3	5	12	3	5½	8½
190-10	126	144	196	83	113	88	17	71	34	—	126	3	5	12	3	5½	8½
190-12	150	168	220	95	125	88	17	71	34	11½	126	3	5	12	3	5½	8½
225- 4	54	72	124	47	77	88	17	71	34	—	126	3	5	12	3	5½	8½
225- 6	78	96	148	59	89	88	17	71	34	—	126	3	5	12	3	5½	8½
225- 8	102	120	172	71	101	88	17	71	34	—	126	3	5	12	3	5½	8½
225-10	126	144	196	83	113	88	17	71	34	—	126	3	5	12	3	5½	8½
225-12	150	168	220	95	125	88	17	71	34	14	126	3	5	12	3	5½	8½

FIGURE 1

MACHINE ASSEMBLY & FOUNDATION LAYOUT



NOTES:

1. Holddown bolts, boxes, nuts, and pipes are not furnished with machine. Use wooden frames to suspend holddown bolts to secure accurate location.

2. Detailed certified foundation prints are available from WYSONG upon request if further data are needed.

C. CLEANING

All exposed surfaces on WYSONG PRESS BRAKES are coated with a rust preventive for protection during shipping, which is easily removed with most ordinary cleaning solvents. BE SURE TO CLEAN RAMWAYS AND GIBS THOROUGHLY BEFORE BEGINNING PRESS BREAK OPERATION.

D. LEVELING

Proper leveling is extremely important to the successful operation of the WYSONG PRESS BRAKE. Pads and shims should be wide enough to support both the foot pads at the corners of the end frames.

1. Place foot pads over anchor bolts and carefully lower Machine into position.

   CAUTION: DO NOT BEND ANCHOR BOLTS OR FOOT PADS.

2. Level PRESS BRAKE front-to-rear, one end frame at a time.

   (a) Place a Machinist Level vertically against the machined surface extending through the slots in Bed Plate (forward edge of end frame) especially provided for leveling purposes.

   (b) Raise or lower front or rear of End Frame until bubble is centered.

   (c) Double check readings by placing Level vertically against machined leveling surface.

   (d) Shim as required.

   (e) Repeat steps above for opposite end of Machine.

3. Level PRESS BRAKE end-to-end.

   (a) Place precision level along top of Bed Plate, centered between End Frames. Allow bubble to stabilize before taking a reading.

   (b) Raise or lower PRESS BRAKE ends as necessary and shim under Foot Pads as required.

4. Check the clearance between Ram Guideways and Ram Brackets.

   (a) Insert a feeler gage in the gap between the FRONT of the Ram Guideway and the Ram Bracket, starting at one end.

   (b) Take readings at both the top and the bottom of the Ram Bracket. The two readings must be nearly identical.

(c) If the two readings vary more than .005", remove or add shims at the rear Foot Pad on that end until the clearance is within tolerance.

5. Repeat steps a thru c above at the other end of Ram.

6. Tighten Anchor Bolts solidly against Shims and Foot Pads before operating PRESS BRAKE.

7. After 3 or 4 weeks of PRESS BRAKE operation, recheck and relevel if necessary.

8. For best operation, check level periodically.

II. LUBRICATION

A. GENERAL

WYSONG PRESS BRAKES are equipped with a "BIJUR" Lubricating System, either MANUAL (type D), or AUTOMATIC (type R). Both systems supply lubrication to the Flange Bearing, the Pitman Bearing Segments, and the Ram Guideways. (See figures 3 & 4 for servicing instructions).

B. LUBRICATION PROCEDURE

1. Actuate the MANUAL system (located on the R.H. End Frame) at least twice during each normal day's operation.

2. Lubricate the Ball Seats periodically through grease fittings on Ram Brackets, using a grease gun.

3. Check Transmission periodically through View Gage on Covers. The oil level should cover ½ the View Gage.

   (a) Remove Breather on top of Transmission Housing to add oil. Replace Breather.

4. Check Clutch Master Cylinder periodically. The fluid level should reach the bottom of the Plug hole.

   CAUTION! DO NOT REFILL HYDRAULIC MASTER CYLINDER WITH OIL !!! USE HYDRAULIC FLUID ONLY.

5. Check elevation Mechanism periodically.

6. Place a few drops of lubricating oil on the Toggle Pins and the Treadle Arm Pin periodically.

B. LUBRICATION PROCEDURE (Continued)

7. Lubricate Clevis Draw Bar every 10 hours of operation with a high-grade, high-temperature, Mobilplex #47 Grease or better lithium-base grease recommended by anti-friction bearing manufacturers.

8. Flush and refill Transmission Housings annually.

9. Activate the MANUAL Lubricating System more frequently during the break-in period (usually about 2 weeks of normal operation).

10. Instructions in Items 1 through 9 above are designed for PRESS BRAKE operations under normal conditions. During periods of excessive operation, the Press Brake will require more frequent lubrication.

To:

Wysong Press Brakes

WYSONG & MILES CO.
GREENSBORO, N. C.

SUBJECT: Flywheel Bearing Lubricants

DATE: 7/15/77

Speed Letter

Amoco	Amilith EP#2
Arco	Multi-Purpose Grease
Exxon	Ronex MP
Gulf	Crown EP#2
Mobil	Mobilux EP#2
Shell	Alvania EP#2
Texaco	Multifac EP#2

RH/KCW
rk

C. FIGURE 2 LUBRICATION CHART

LUBRICATION POINTS	SCHEDULE	METHOD
Elevation Screw & Ball Socket	Weekly	Apply grease to fittings on pitman & Ram Bracket on each end of machine.
Flywheel	Twice Yearly	Remove plug and insert grease fitting. Apply grease carefully to prevent damage to seals.
Cartridge Bearings	Monthly	Apply grease to ends of Primary Shaft.

TYPE OF LUBRICATION

TRANSMISSION HOUSINGS

Exxon	Spartan EP 680
Gulf	EP 95
Shell	Omala 81
Sacony	EP Gear Oil DD
Texaco	Meropa Lubricant 680
Mobil	#636

BIJUR AUTOMATIC AND ONE SHOT LUBRICATION SYSTEMS

Exxon	Teresstic 65
Gulf	Harmony 53
Shell	Tellus 69
Sacony	DTE Oil Hevay Medium
Cities Service	Pacemaker Oil #3
Mobil	Vactra (Extra Heavy)

AIR LINE LUBRICATION

Gulf	Harmony 44
Shell	Tellus 25
Texaco	Regal Oil B, R & O
Amoco	American Industrial Oil #15
Mobil	DTE 24 (Light)

GREASE

Mobil	Mobilplex #47

Service Instructions

For systems with lubricator type "D——"

BIJUR automatic lubricating system

FIGURE 3

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.

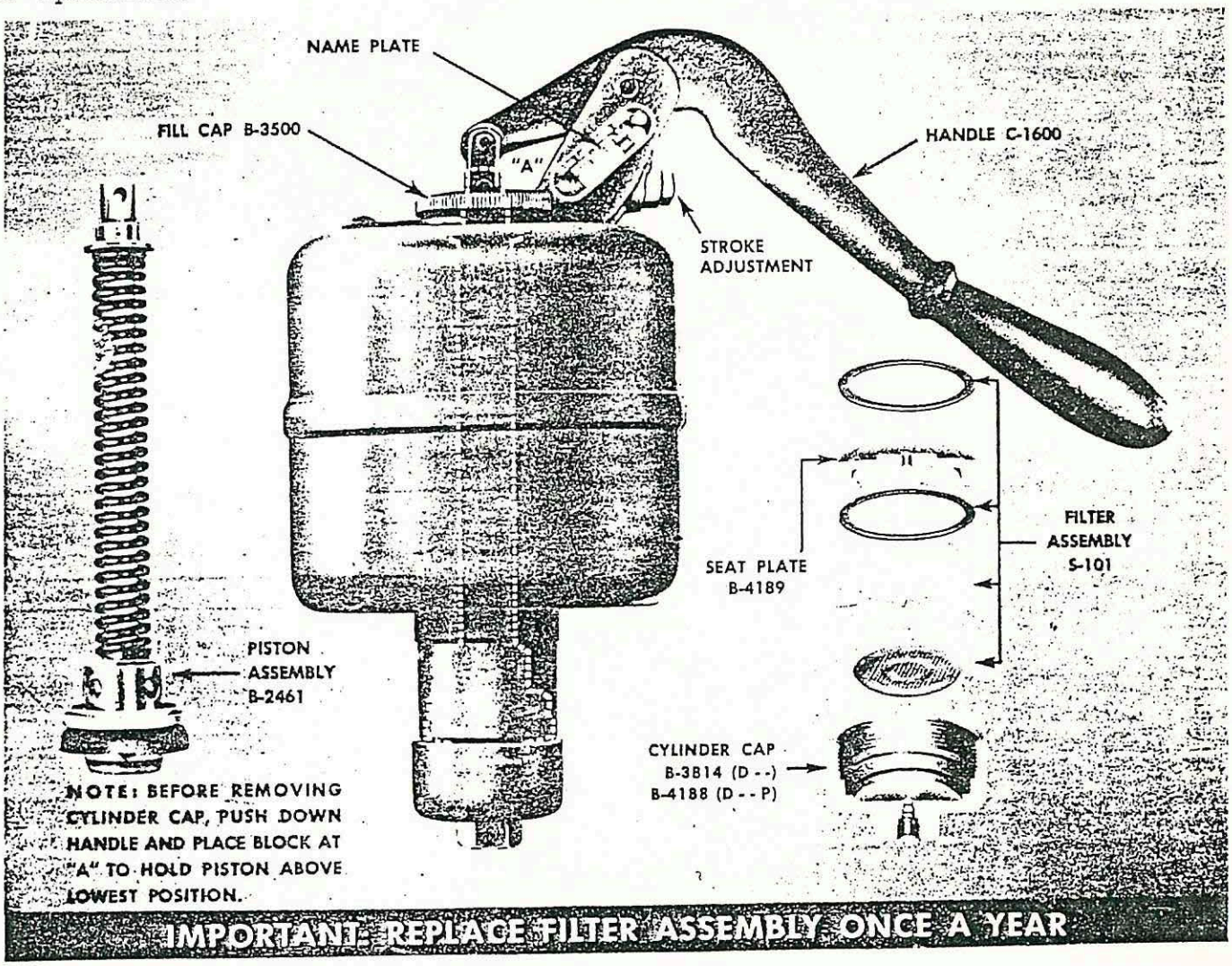
STARTING A NEW MACHINE: Fill reservoir; operate lubricator until oil shows freely at all bearings.

MAINTENANCE: Check oil level daily and refill reservoir when required. **Replace filter assembly annually.** Check system periodically 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.

Be sure to use Esso Standard Oil Esstic 50 or equivalent.



COURTESY: BIJUR

Service Instructions • BIJUR Automatic Lubricating System

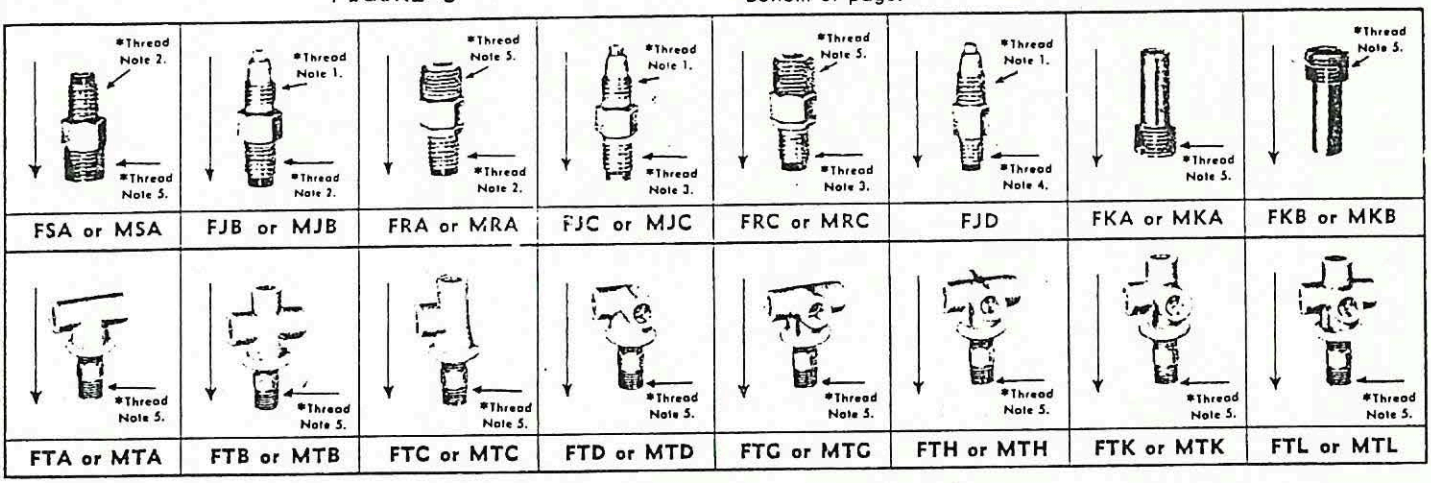
SERVICE *(Meter-Units)*

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.

SERVICE PARTS *(Meter-Units)*

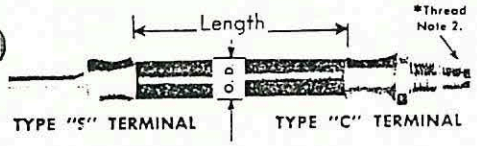
Order by Name, Type and Flow Rate Number. Example: "Meter-Unit FSA-O". Note carefully:—F and M types are different, even though they look alike, and they are not interchangeable. Type (FJD, MTK, etc.), Flow Rate Number (00, 0, 1, 2, 3, 4 or 5) and flow direction arrow are stamped on body of each Meter-Unit.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

FIGURE 3



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.
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."

	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

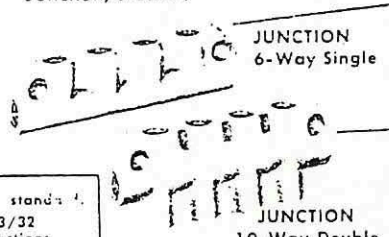
COMPRESSION FITTINGS—Check tubing O.D. and thread and hex on nuts and bushings. See "thread notes" at bottom of page. Sleeves of proper tubing size are required for all connections. Order by Name and Part No. Example: "Bushing, B-3783."

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

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."

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.
2 5/16-24 for 5/32 tubing connections.
3 5/16-24 for 1/4 tubing connections.
4 1/4-28 for 3/32 tubing connections.
5 1/8 pipe thread.

Service Instructions

For systems with lubricator type "R––"

BIJUR automatic lubricating system

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.

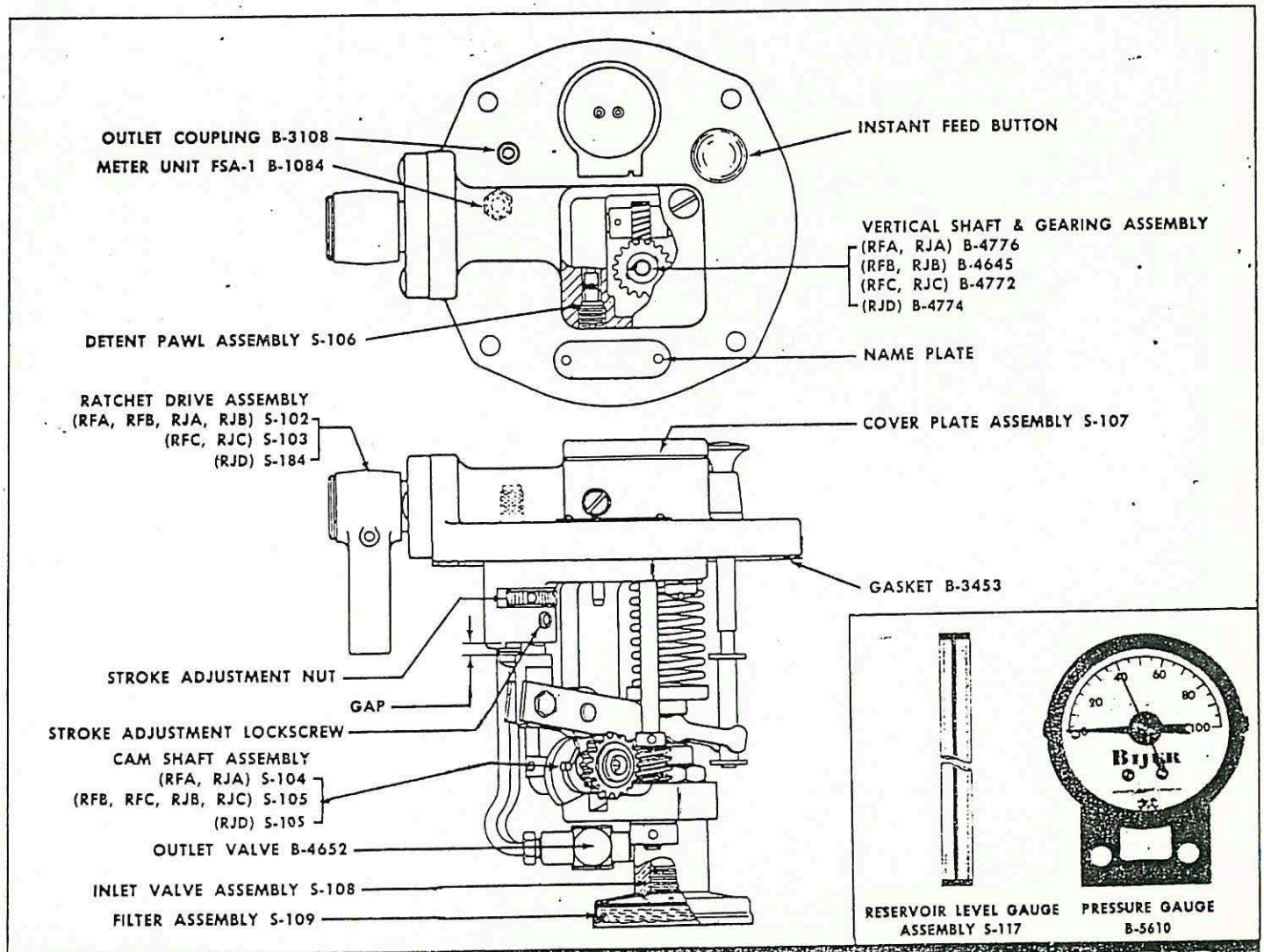
OPERATION: This fully automatic lubricating system is pre-set by the machine manufacturer for best operation. Lubricator Type R is a piston pump actuated by reciprocating motion from the machine. Oil volume is determined by the pump stroke setting; discharge frequency is determined by the ratchet and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



IMPORTANT: REPLACE FILTER ASSEMBLY ONCE A YEAR

111. ADJUSTMENTS

A. CLUTCH (MODEL "E")

All Model "E" and "EH" clutches are cone engaged. When the cone assembly is moved toward the clutch, the rolled end of the four levers contacting the cone travel up the cone's contour. This action causes the projecting lug of the lever to exert pressure against the pressure ring, and floating plate; hence, the clutch is engaged. When the cone assembly is moved out, the pressure against the floating plate is released, thus dis-engaging the clutch.

The clutch must be properly aligned with the driving member during installation in order to prevent excessive scrubbing and parts wear. If such wear is observed, examine the entire installation for alignment with the aid of a dial indicator.

Because of normal wear on friction pads, some adjustment will be necessary during the first days of operation.

If clutch heats, grabs, jumps out of engagement, or does not pull, it is in need of adjustment.

CAUTION: BEFORE ADJUSTING CLUTCH, RUN RAM TO BOTTOM OF STROKE, RELEASE CLUTCH, TURN POWER OFF, AND ALLOW FLYWHEEL TO COME TO A COMPLETE STOP.

1. Remove clutch cover.
2. Observe rollers. Engaging action should begin as the rollers start to rise on the cone.
3. Turn clutch manually until lock pin can be reached.
4. Pull lock pin outward and turn adjusting ring (CLOCKWISE to tighten, or COUNTERCLOCKWISE to loosen.
5. Turn adjusting yoke until a definite pressure is required to engage.
   (a) Start with clutch loose enough to permit rollers to hit stop on cone in the ENGAGED position.
   (b) Make two marks on shaft, .125 and .250 from cone sleeve toward RELEASED position.
   (c) Tighten clutch enough to stop cone and sleeve assembly between marks on shaft with full engaging effort applied. A new clutch requires several adjustments until friction discs are worn in.

111. ADJUSTMENTS (Continued)

6. The adjusting ring may have to be turned slightly in one direction or the other for the pin to drop into the locking plate.

NOTE: WHEN THE ADJUSTMENT LIMITS HAVE BEEN REACHED, THE FRICTION PLATES WILL HAVE TO BE REPLACED.

CAUTION: AFTER CLUTCH ADJUSTMENT, CHECK SAFETY LOCK TO BE SURE THAT CLUTCH CANNOT BE ENGAGED WITH LOCK IN PLACE.

7. CLUTCH DIS-ASSEMBLY

(a) Slide cone assembly into disengaged position as far as possible.
(b) Remove split clutch cover by removing six cap screws that secure cover to pressure ring.
(c) Lock adjusting lock pin in the OUT position. Rotate adjusting ring counterclockwise until it comes off the threaded pressure ring.
(d) Remove two pilot pins. Rotate pressure ring until slots in the bore of the ring are aligned with finger levers.
(e) Remove pressure ring from floating plate, and remove floating plate.

(f) In sequence, remove finger lever assemblies, driving plate assemblies, and center plate from the hub and back plate.
(g) Remove release springs.
(h) If necessary to remove hub and back plate from shaft, remove set screw and nut from hub and back plate.
(i) The floating plate is provided with two or three pairs of holes for pilot pins. The position of pressure ring should be changed each time clutch is re-assembled. This will change the contact points on pressure ring lever.

B. BRAKE REFERENCE: Figure 5)

1. Since the Brake Shoe Compression Spring is fixed by the length of the Spring Bolt (1), only the opening clearance need be adjusted.

WARNING: ALWAYS DISENGAGE CLUTCH TO LEAVE RAM AT BOTTOM OF STROKE, SHUT OFF DRIVE MOTOR, OPEN AND LOCK OUT DISCONNECT SWITCH AND LET FLYWHEEL COME TO A COMPLETE STOP BEFORE ATTEMPTING ANY ADJUSTMENTS.

2. Ensure Spring Bolts (1) are bottomed in Brake Shoe (8) and locked in position with Jam Nuts (5) to maintain correct compression.

3. Loosen Jam Nut (3) and adjust Limit Bolt (4) against Rod (6) until there is about 1/32" clearance between Rod (6) and Roller (7) while other end of Rod is still in contact with Bolt (4). ENSURE THIS CLEARANCE IS MAINTAINED.

4. If shoes cock off-center as they are opened (in this adjustment or in normal operation) loosen Jam Nut (10) on Stop Bracket Bolt (9) and adjust Bolt to obtain a 1/32" to 1/16" clearance between Lining and Drum.

CAUTION: UNEQUAL CLEARANCE CAUSES EXCESSIVE WEAR BECAUSE BRAKE SHOES WILL DRAG ON RELEASE OR GRAB TOO SOON ON APPLICATION. THEREFORE, IT IS IMPORTANT TO MAINTAIN THE ABOVE CLEARANCE.

NOTE: NEVER apply oil between Lining and Drum.

6. Release Operating Device to close Shoes and Lock Adjustments by tightening Jam Nuts (3 & 10).

7. Operate Machine and observe Brake action. Brake Must release simultaneously with clutch engagement, as well as bring Ram to a smooth, sliding stop with dis-engagement of clutch.

8. As Lining wears, periodically compensate for wear by repeating stops above.

9. Replace Lining when it has worn down to about one-half its original thickness.

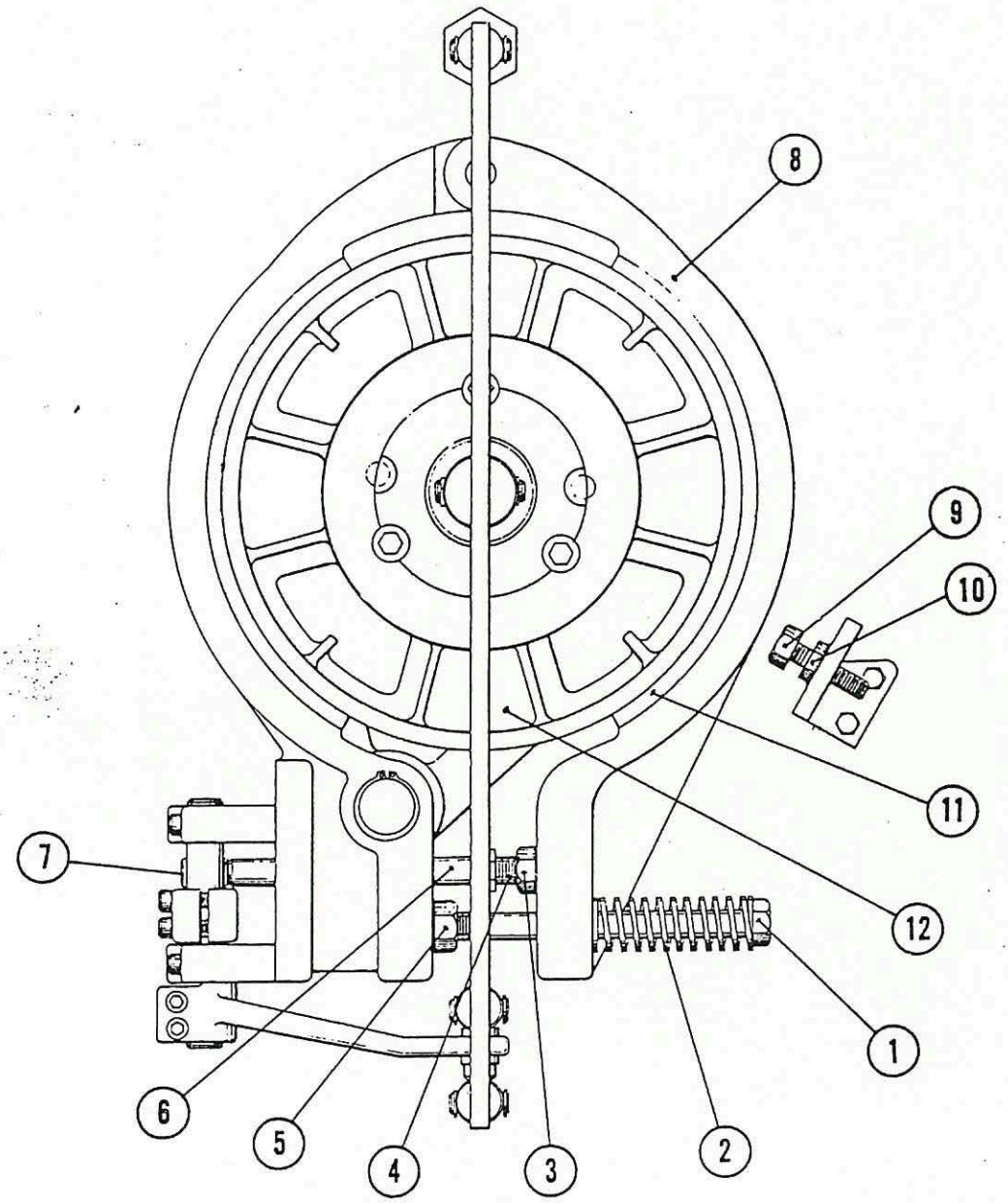


FIGURE 5
RAM SHOE BRAKE

ITEM	DESCRIPTION	ITEM	DESCRIPTION
1	Spring Bolt	7	Roller
2	Spring	8	Brake Shoe
3	Jam Nut	9	Stop Bracket Bolt
4	Limit Bolt	10	Jam Nut
5	Jam Nuts	11	Lining
6	Rod	12	Drum

PITMAN ADJUSTMENT

The WYSONG Split-Type Pitmans are equipped with laminated brass shim stock between the Caps and Pitman to achieve a .003" to .005" clearance. Under normal conditions, with proper lubrication, the pitman bearings should be checked every two years. The bearings should be checked more often under extreme conditions.

If the bearing clearance should increase over a period of time, follow these steps:

1. Place the Ram on the bottom of the stroke.
2. Use Feeler Gauge to determine bearing clearance between bronze segment and eccentric at bottom center.
3. Place blocks between Bed and Ram for support.
4. Loosen Pitman Caps enough to slide out shim stock.
5. Remove one layer of the laminations from each side, tighten the bolts, remove support blocks, and re-check clearance.
6. Repeat Steps 1-5, if necessary to obtain the desired clearance.

RAM ADJUSTMENT

Ram adjustment motor control buttons are located on the right hand front of the ram. The adjustment mechanism is self-locking. To actuate, simply depress the UP button or DOWN button as required. Safety Limit Switches prevent overtravel. The Ram Adjustment Counter reading in .001", help in recording die settings for repeat jobs.

1. Disengage one end of ram adjustment with the clutch lever on the counter housing. This allows for tilting the ram to compensate for taper in dies or for fade-out work.
2. Swivel or rocker-type bearing way segments are used, no gib adjustment is necessary when tilting the ram.

IV. STALLING

A. STALLING ON BOTTOM CENTER

If the Press Brake becomes heavily overloaded, it is possible for all the flywheel energy to become exhausted, thereby stalling the Press Brake on bottom center.

NOTE: NEVER ATTEMPT TO RELEASE RAM WITH RAM ADJUSTMENT MOTOR.

1. Hold in reverse pushbutton until flywheel comes up to full speed and engage clutch.
2. If flywheel stalls, release clutch to allow it to regain full speed.
3. Repeatedly engage clutch until ram releases and backs off.

NOTE: IF ABOVE PROCEDURE FAILS - CONTACT FACTORY.

FOR MACHINES NOT EQUIPPED WITH REVERSING CONTROLS

NOTE: NEVER ATTEMPT TO RELEASE RAM WITH RAM ADJUSTMENT MOTOR.

WARNING: To avoid electric shock, open and lockout disconnect switch before touching wires.

1. Reverse Flywheel Rotation by switching any two of the three power leads on Starter.
2. Reclose disconnect Switch.
3. Run Flywheel up to full speed and engage clutch.
4. If flywheel stalls, release clutch to allow it to regain full speed.
5. Repeatedly engage Clutch until Ram backs off.

NOTE: If above procedure fails - Contact Factory.

WARNING: TO AVOID ELECTRIC SHOCK, OPEN AND LOCKOUT DISCONNECT SWITCH BEFORE TOUCHING WIRES.

6. Change power leads on Starter to change Rotation back to forward.

V. OPERATION

TONNAGE TABLE

TONS PRESSURE REQUIRED PER LINEAL FOOT FOR BENDING

(Bending mild steel with "Air Bend" dies)

FIGURE 6

Metal Thickness		Width of Vee Die Opening																					
Gauge	Inches	1/4"	5/16"	3/8"	7/16"	1/2"	5/8"	3/4"	7/8"	1"	1 1/8"	1 1/4"	1 1/2"	2"	2 1/2"	3"	3 1/2"	4"	5"	6"	7"	8"	10"	12"
20	0.036	3.1	2.3	1.7	1.4	1.1																		
18	0.048	5.3	4.0	3.0	2.5	2.2	1.7	1.3																
16	0.060	9.6	7.1	5.6	4.5	3.8	2.8	2.2	1.8	1.5														
14	0.075		11.9	9.2	7.6	6.3	4.7	3.5	3.0	2.5	2.1	1.8												
12	0.105				16.7	13.1	9.7	8.0	6.5	5.6	4.6	4.1	3.2											
11	0.120					19.2	14.2	11.1	9.0	7.5	6.3	5.5	4.4	2.9										
10	0.135						18.6	14.5	11.9	9.9	8.5	7.3	5.8	4.0										
3/16	0.188							27.4	23.1	19.3	16.4	14.3	11.2	7.5	5.7	4.4								
1/4	0.250									39.4	33.3	29.5	22.7	15.4	11.4	9.0	7.4	6.1						
5/16	0.313											50.4	39.8	27.0	19.7	14.3	12.7	10.5	7.7					
3/8	0.375												61.6	42.3	30.9	24.0	19.6	16.3	12.3	9.5				
7/16	0.438													61.7	45.8	35.4	28.6	24.4	17.3	14.8	11.2			
1/2	0.500													85.2	63.6	48.8	39.7	33.3	24.6	19.4	15.9	13.1		
5/8	0.625														110.0	86.2	70.0	58.3	43.1	33.3	27.4	23.3	16.9	
3/4	0.750															138.0	110.0	93.0	68.7	53.5	43.6	36.5	27.1	21.0
7/8	0.875																165.0	137.0	104.0	80.7	64.6	52.9	39.7	31.6
1	1.000																	197.0	143.0	113.0	91.2	76.2	56.3	44.2

Tonnages in the darker-color panels are for vee-die openings eight times the thickness of the metal. These are generally used for average right angle bending work, giving an inside radius of the bend roughly equal to the metal thickness. When bending ordinary mild steel plates ½" and thicker, it is usually necessary to use a vee die opening greater than eight times the metal thickness to prevent fracture. Tonnages in the lighter colored panels in the above chart are for vee die openings recommended for these heavier thicknesses.

Above chart is for mild steel of 55,000 to 65,000 PSI tensil strength.

Bending pressure for other metal as compared to mild steel:

Soft Brass	50% of Pressure Listed
Soft Aluminum	50% of Pressure Listed
Aluminum Alloy (Heat Treated)	Same as Steel
Stainless Steel	50% more than Steel
Chrome Molybdenum	50% more than Steel

A. DIE SETUP

1. Most press brake operations involve single 90° bends, using male and female Vees with a width eight times material thickness. Preferably the Vee radii are no smaller than material thickness.

V. OPERATION (Continued)

2. Dies for 90° bends are generally about 88° or less to compensate for spring back of material. These dies do not have to be bottomed on the work piece, since they air-bend and require less power.

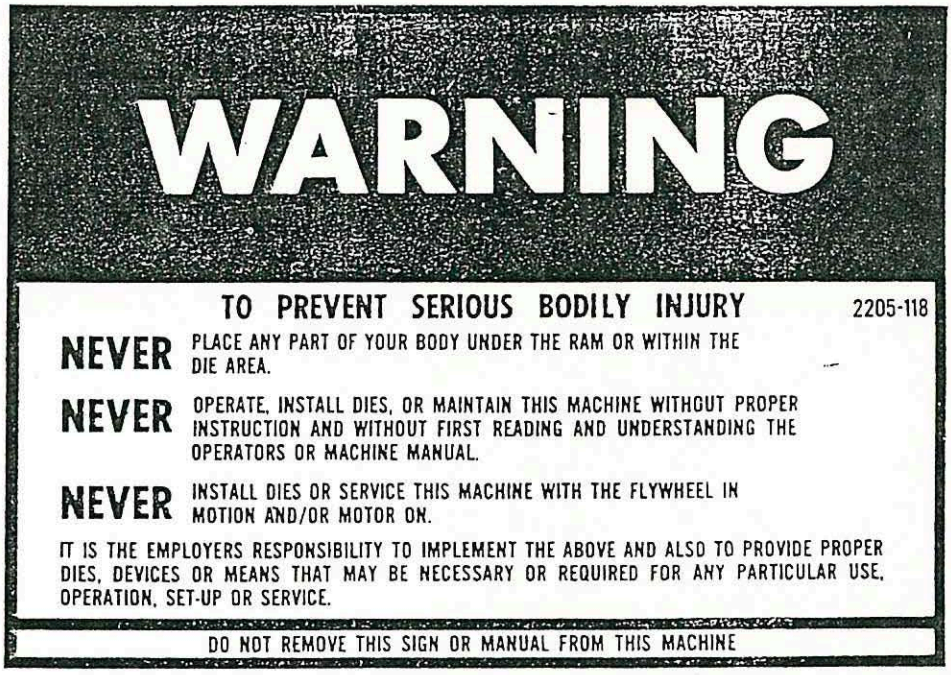
3. When air bending, the inside radius will be approximately 5/32 of the die opening, regardless of the thickness of material being formed.

4. If the punch radius is equal to or smaller than stock thickness and die opening is eight times stock thickness, the inside bend radius will be approximately equal to stock thickness.

5. Increasing of decreasing die opening will subsequently increase or decrease bend radius.

6. The larger the radius and the lighter the material, the more springback. Overbend allowance must be made in the dies to compensate. 90° dies with 90° included angle do not allow for springback.

B. PRESS BRAKE SETUP PROCEDURE



B. PRESS BRAKE SETUP PROCEDURE (Continued)

1. The initial PRESS BRAKE SETUP should begin with the Ram at the bottom of the stroke. Each Eccentric is marked with a center line that indicates extremes of the stroke, when in the vertical position.

2. When the stroke is DOWN and the adjustment is UP, there will be a 12" distance between the faces of the Bed and the Ram.

3. With the Die Holder in place but not bolted tight, place Lower Die on Die Holder (Center Dies between End Frames).

4. Tighten Die Clamping Set Screws. The Die should set firmly on its supporting shoulders.

5. Adjust Ram downward to allow just enough space for the Upper Die.

6. Slide Upper Die in place.

7. Adjust Ram downward tightly with Ram Adjusting Motor. Completely tighten Upper Die Clamp Bolts.

8. Tighten Die Holder Bolts.

9. Adjust Ram upward to metal thickness clearance at the slopes of the Die.

NOTE: Ram may require a different setting on one end from the other to compensate for total errors in Dies or machine parts wear. It may be necessary to shim Dies to correct for machine deflection.

10. When loads are heavy enough to cause Bed deflection, the angle of bend on the piece part will not be consistent.

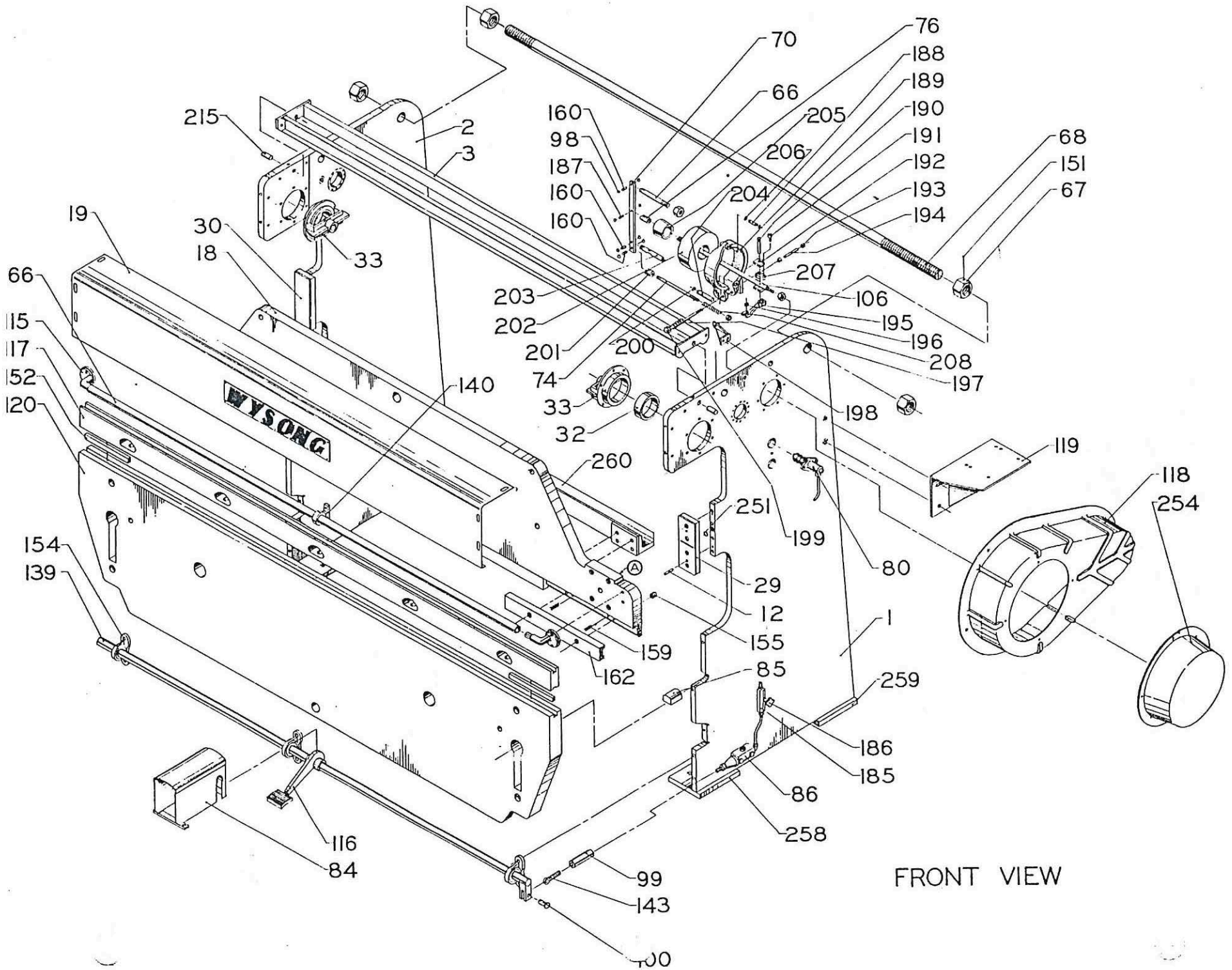
    (a) To correct this condition, use shims at center of Dies.

NOTE: A Ram adjustment of only a few thousandths of an inch will produce a sharp change of angle in the work piece.

B. PRESS BRAKE SETUP PROCEDURE (Continued)

REMEMBER, WHEN SETTING UP DIES:

- BRING RAM TO BOTTOM OF STROKE.
- REMOVE FOOT PEDAL SO CLUTCH WILL NOT OPERATE ACCIDENTALLY.
- CHANGE DIE HEIGHT ONLY WITH MOTORIZED RAM ADJUSTMENT.


WYSONG
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159
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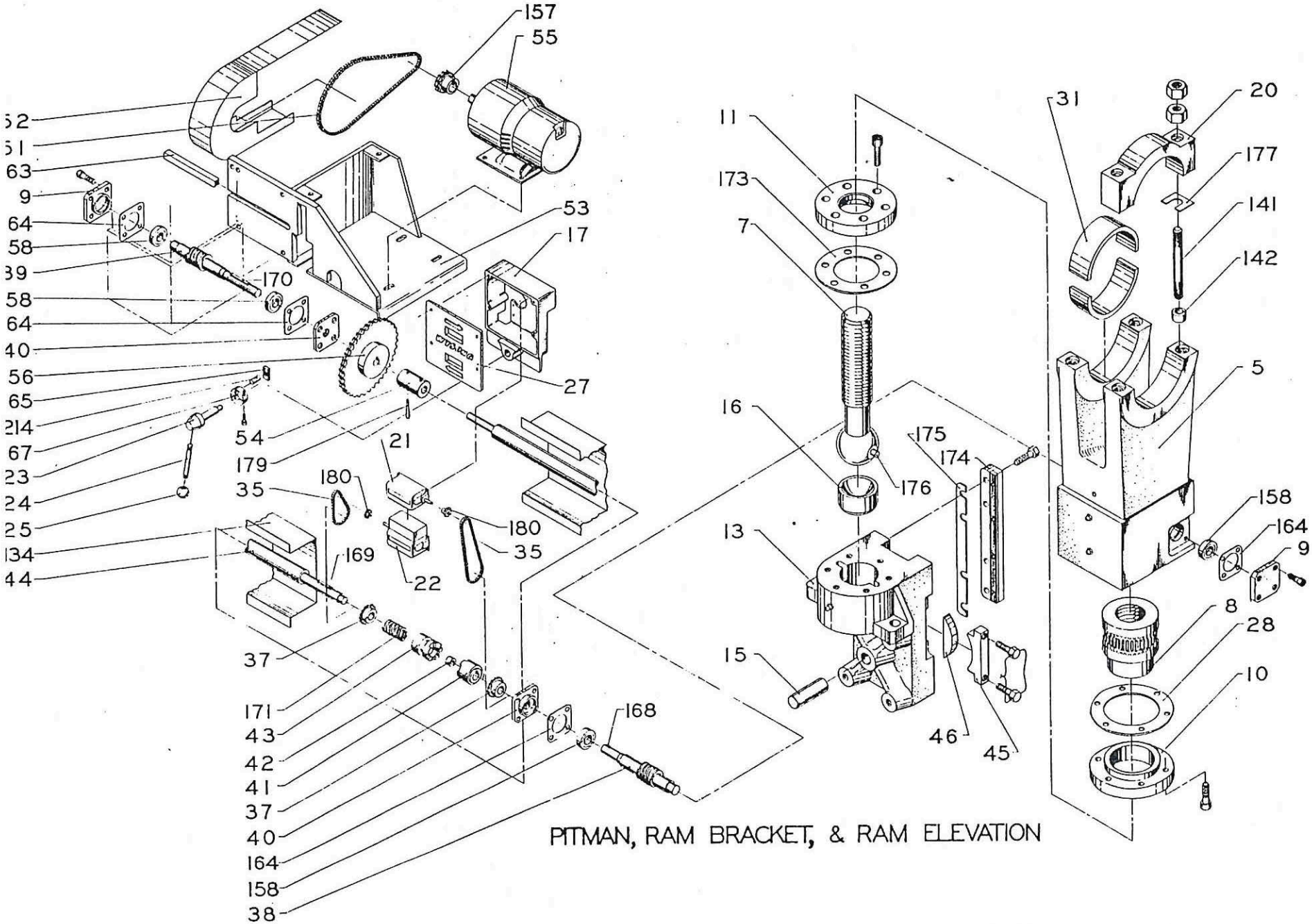
259
186
185
86
258
116
84
99
143
100
FRONT VIEW

WYSONG SINGLE SPEED PRESS BRAKE
SERIES 190 & 225
FRONT VIEW

ITEM	QTY.	PART NUMBER	DESCRIPTION
1	1	7285-230 (190)	Plate, R H Side
	1	7285-448 (225)	Plate, R H Side
2	1	7185-798 (190)	Plate, L H Side
	1	7285-449 (225)	Plate, L H Side
3	1	7285-343	Bar, Spreader
12	2	3333-010	Pin, Dowel
18	1	7485-739 (190)	Ram
	1	7485-783 (225)	Ram
19	1	7285-342	Crown
29	1	7385-031	Way, Ram R H
30	1	7385-032	Way, Ram L H
32	2	3134-681	Bearing, Eccentric
33	2	7085-243	Housing, Eccentric Brg.
66	1	7485-032	Stud, Yoke Pivot
67	4	7485-040	Nut, Support Rod
68	1	7485-742	Rod, Support
70	1	7485-036	Yoke, Clutch Shift
74	1	7485-027	Rod, Yoke Spring
76	1	7485-025	Clevis, Clutch Yoke
[illegible]	1	3743-024	Cylinder, Slave
[illegible]4	1	7285-212	Guard, Foot Treadle
85	2	7485-470	Pillow, Bed
86	1	3743-020	Cylinder, Master
98	8	3351-022	Ring, External Retaining
99	1	7185-134	Turnbuckle
100	1	3745-061	Pin, Clevis
106	1	7485-462	Rod, Clutch
115	2	7085-001	Bracket, Handrail
116	1	7085-037	Treadle, Foot
117	1	7485-079	Holder, Die
118	1	7485-880	Guard, Flywheel
119	1	7287-008	Base, Motor
120	1	7485-737 (190)	Bed
	1	7485-778 (225)	Bed
139	1	7285-345	Shaft, Treadle
140	1	7085-130	Bracket, Center
143	1	7185-190	Eyebolt, L H
151	4	7485-041	Plug
152	2	7485-083	Key, Die Holder
154	3	3136-146	Bearing, Pillow Block
155	12	3323-510	Allenut
159	12	3504-071	Spring
[illegible]60	3	7485-023	Pin, Yoke

WYSONG SINGLE SPEED PRESS BRAKE
SERIES 190 & 225
FRONT VIEW

ITEM	QTY.	PART NUMBER	DESCRIPTION
162	6	7485-515	Bar, Clamp
166	1	7435-019	Bar, Ram Hand
185	1	3757-020	Valve, Safety Shut-Off
186	1	7085-089	Knob, Hand
187	1	7485-022	Pin, Yoke
188	1	7485-029	Pin, Brake Shoe Hinge
189	1	7385-029	Assembly, Brake Shoe
190	1	7485-031	Shaft, BrakeLinkage
191	1	3107-098	Bearing, Cam Follower
192	2	7085-085	Block, Brake Linkage Bearing
193	2	3120-220	Bearing , Bronze
194	1	7485-030	Plunger, Brake
195	1	7085-086	Lever, Brake Linkage
196	1	7485-021	Bearing, Brake Linkage
197	2	3510-020	Spring, Danly 9-2420-11
198	1	7285-215	Stop, Brake
199	2	3309-024	Screw, Hi C Hex Hd. Cap
200	1	3351-482	Ring, External Retain.
201	1	7485-036	Yoke, Cluth Shift
202	1	7085-082	Drum Brake
203	1	7485-251	Rod, Clutch Yoke Push
204	1	7486-009	Pin, Brake Reaction
205	1	3401-024	Bushing, Taper Lock
206	6	3351-026	Ring, External Retain.
207	1	7085-375	Arm, Brake Linkage
208	1	3504-204	Spring - Clevis Yoke
	1		
215	2	7485-468	Pin, Spreader Bar
251	2	3255-048	O-Ring
254	1	7485-878	Guard, Flywheel Clutch
258	2	7187-214	Plate, Front Foot
259	2	7187-215	Plate, Rear Foot
260	1	7285-496	Brace, Ram



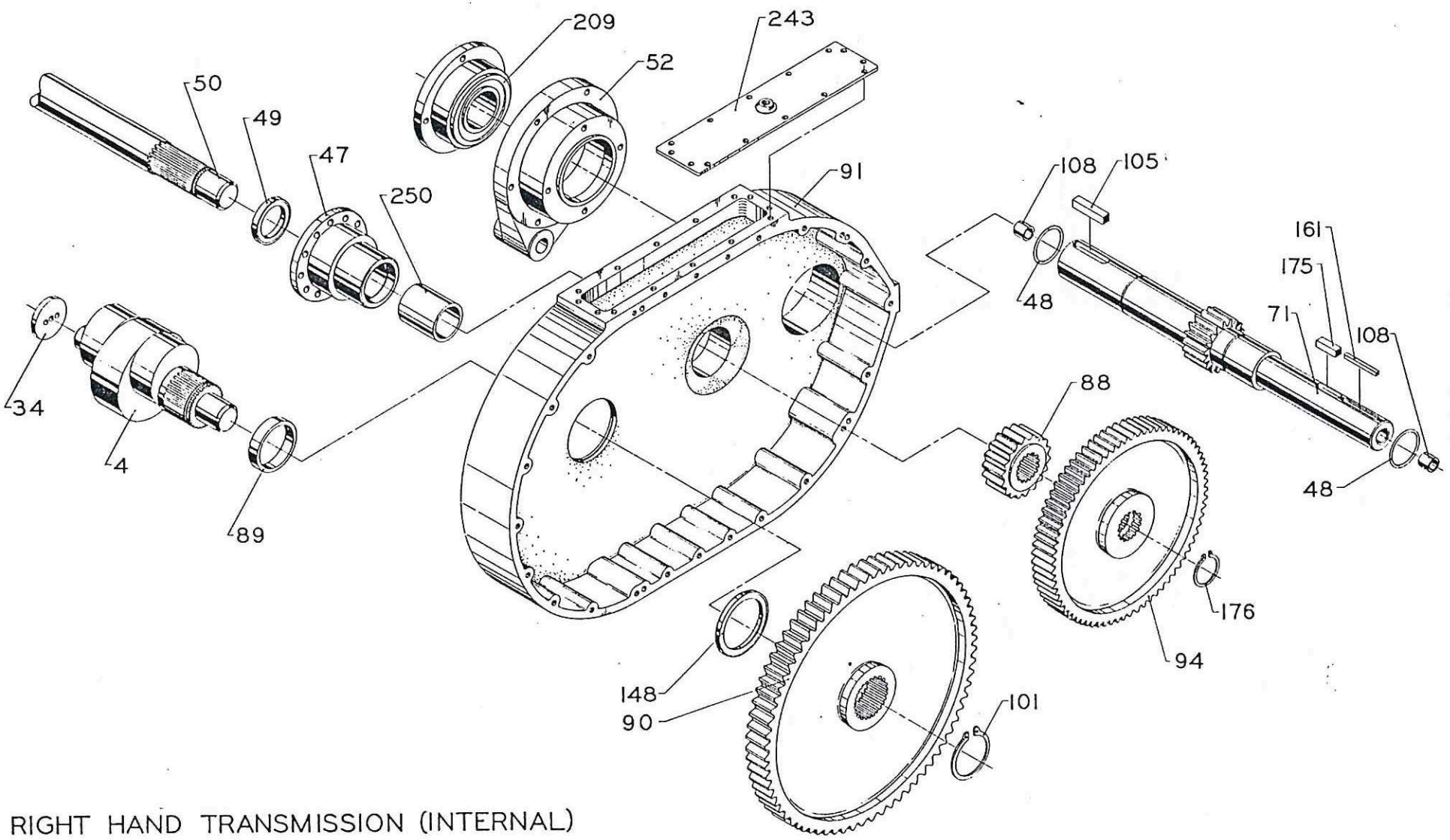
PITMAN, RAM BRACKET, & RAM ELEVATION

WYSONG SINGLE SPEED PRESS BRAKE
SERIES 190 & 225
PITMAN, RAM BRACKET & RAM ELEVATION

ITEM	QTY.	PART NUMBER	DESCRIPTION
5	1	7085-226	Pitman, R H
6	1	7085-225	Pitman, L H
7	2	7485-431	Screw, Elevation
8	2	3370-060	Nut, Elevation
9	2	7485-830	Cap, Outside Worm Brg.
10	2	7085-228	Retainer, Elevation Nut
11	2	7085-234	Cap, Ram Bracket
13	1	7085-382	Bracket, R H Ram
14	1	7085-383	Bracket, L H Ram
15	2	7485-472	Pin, Ram to Bracket Dowel
16	2	3124-053	Seat, Bull
17	1	7085-413	Housing, Counter
20	4	7085-227	Cap, Pitman
21	1	2201-240	Counter
22	1	2201-244	Counter
23	1	7185-114	Shaft, Elevation Actuator
24	1	7185-108	Handle, Clutch
25	1	2203-010	Knob
27	1	7085-414	Cover, Counter Housing
28	ASN	3228-307 to 310	Shim, Nut Retainer
31	4	7485-438	Bearing, Pitman Segment
35	CTL	3430-030	Chains, Roller
37	2	7485-007	Sprocket, Shaft to Counter
38	1	7485-433	Worm, R H Elevation
39	1	7485-432	Worm, L H Elevation
40	2	7485-831	Cap, Inside Worm Bearing
41	1	7485-013	Clutch, Elevation Worm
42	1	3120-207	Bearing, Bost B1215-5
43	1	7485-014	Clutch, Elevation Shaft
44	1	7285-346	Shaft, Elevation
45	2	7085-384	Retainer, Way Bearing
46	2	7041-133	Segment, Way Brg. Micarta
51	CTL	3430-037	Chain, Double Strand Roller
52	1	7286-018	Cover, Elevation Drive
55	1	4268-124	Motor, Elevation
134	1	7485-744	Cover, Elevation Shaft
141	8	7485-428	Stud, Pitman Cap
142	8	7485-471	Sleeve, Pitman Brg. Cap
156	1	7485-245	Sprocket, Elevation Shaft
157	1	7485-797	Sprocket, Elevation Motor
158	4	3178-016	Bearing, Single Row Rod
163	1	7485-442	Key, 1/2 x 3/4 x 7 Lg.
164	ASN	3328-818 to 821	Shim, Worm Retainer

WYSONG SINGLE SPEED PRESS BRAKE
SERIES 190 & 225
PITMAN, RAM BRACKET & RAM ELEVATION

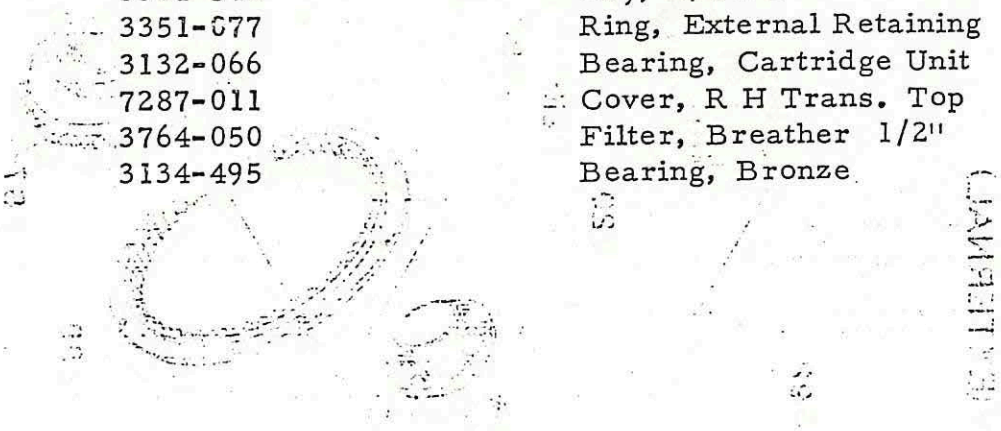
ITEM	QTY.	PART NUMBER	DESCRIPTION
165	1	7185-113	Shoe, Clutch
167	1	7185-118	Ring, Elevation Actuator
168	1	3301-432	Key, R H Worm
169	1	3301-432	Key, Elevation Shaft
170	1	3301-441	Key, L H Worm
171	1	3504-183	Spring, Elevation Clutch
173	ASN	3328-432 to 435	Shim, Ram Bracket Cap
174	4	7385-033	Gib
175	4	7485-779	Shim, Gib
176	2	3333-017	Pin, Elev. Screw Dowel
177	8	7485-522	Shim, Pitman Cap
179	2	7435-139	Pin, #5 Taper
179 A	2	3324-200	Nut, 1/4 - 20 Flex Loc
180	2	3412-039	Sprocket
214	1	3333-004	Pin, Dowel 7/16 x 1



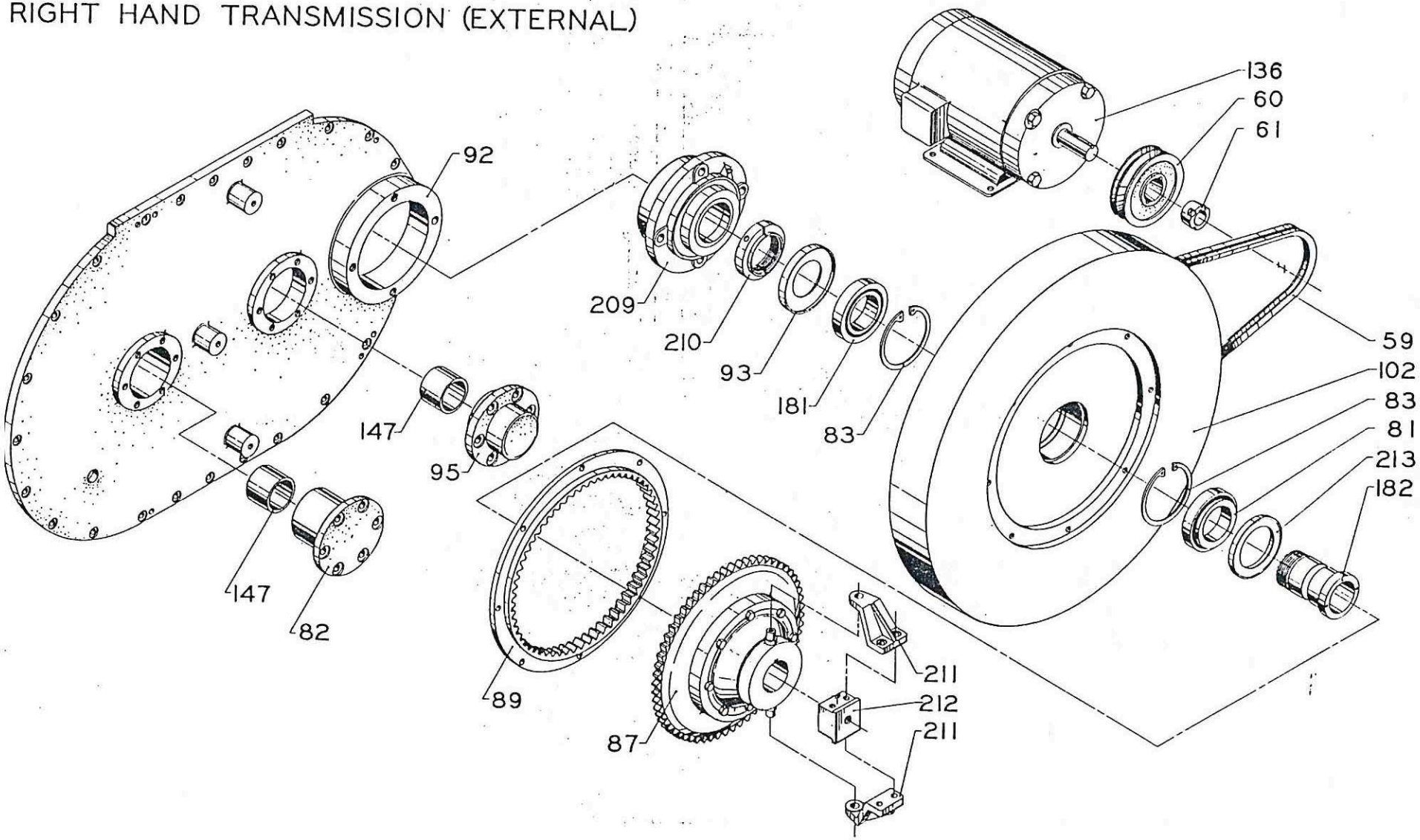
RIGHT HAND TRANSMISSION (INTERNAL)

WYSONG SINGLE SPEED PRESS BRAKE
SERIES 190 & 225
R H TRANSMISSION (INTERNAL)

ITEM	QTY.	PART NUMBER	DESCRIPTION
4	1	7085-247	Eccentric
34	1	7485-465	Keeper
47	1	7085-238	Housing, R H Sec. Shaft Brg.
48	2	3255-043	O Ring
49	1	3211-084	Seal, Oil
50	1	7485-740	Shaft, Secondary
52	1	7085-412	Housing, Pinion Bearing
71	1	7485-466	Shaft, Primary
88	1	7485-459	Pinion, Secondary Gear
89	1	7485-463	Sleeve, Eccentric
90	1	7485-454	Gear, Eccentric Bull
91	1	7085-242	Housing, R H Transmission
94	1	7485-458	Gear, Secondary Bull
101	1	3351-089	Ring, External Retaining
105	1	3301-550	Key, 7/8 x 3
108	2	3120-302	Bearing, Bronze
148	1	3211-099	Seal. Oil
161	1	3301-442	Key, 1/4 x 4
175	1	3301-540	Key, 3/4 x 5
176	1	3351-077	Ring, External Retaining
209	1	3132-066	Bearing, Cartridge Unit
243	1	7287-011	Cover, R H Trans. Top
243 A	2	3764-050	Filter, Breather 1/2"
250	1	3134-495	Bearing, Bronze

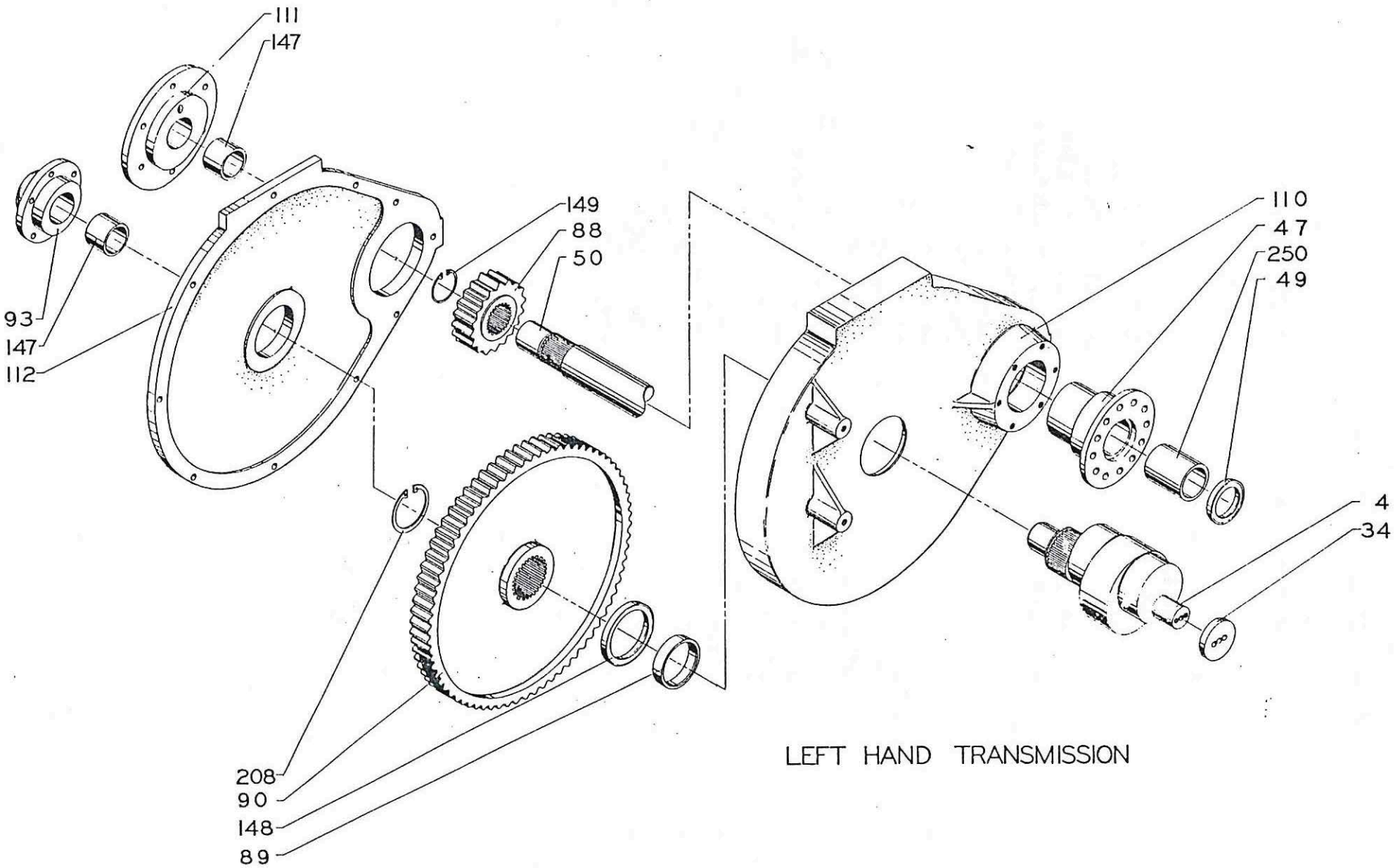


RIGHT HAND TRANSMISSION (EXTERNAL)



WYSONG SINGLE SPEED PRESS BRAKE
SERIES 190 & 225
R H TRANSMISSION (EXTERNAL)

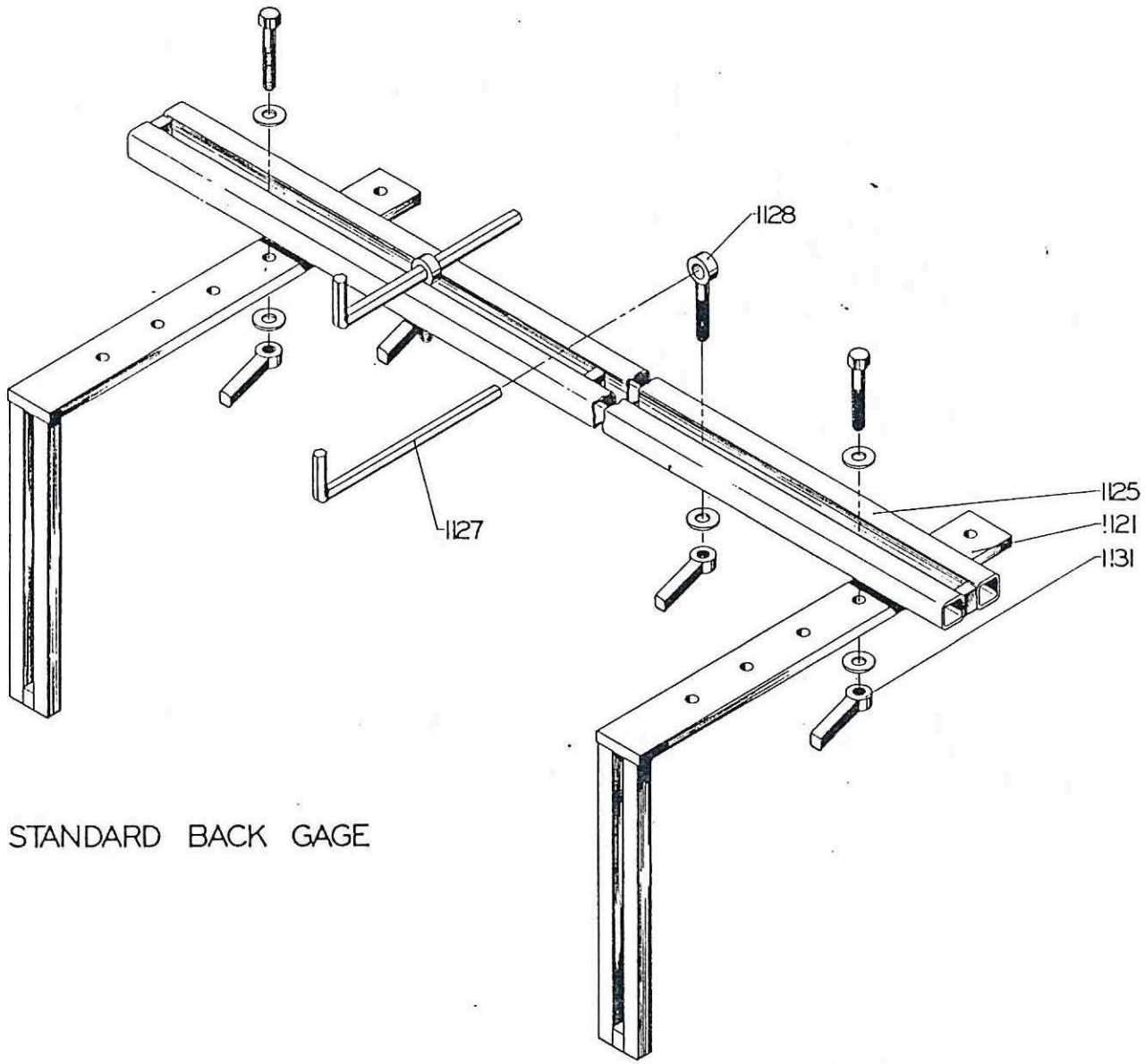
ITEM	QTY.	PART NUMBER	DESCRIPTION
59	2	3419-008	V-Belt
60	1	3411-010	Sheave, Taperlock
61	1	3401-024	Bushing, Taperlock
81	2	3116-540	Cone, Bearing
82	1	7085-252	Cap, Ecc. Brg. R H
83	2	3351-292	Ring, Int. Retainer
87	1	3432-504	Clutch, Twin Disc.
89	1	3432-505	Ring, Clutch Drive
92	1	7085-245	Cover, R H Trans.
93	1	3211-650	Seal, Grease
	1	3211-661	Seal, Grease
	1	3211-651	Seal, Grease
95	1	7085-235	Cap, Sec. Shaft
102	1	7085-244	Flywheel
136	1	4226-214	Motor, Drive
147	1	3134-508	Bearing, Bronze Eccentric
147 A	1	3134-423	Bearing, Bronze, Sec. Shaft
181	2	3116-040	Cup, Bearing
182	1	7485-461	Sleeve, Flywheel Brg.
209	1	3132-066	Brg., Cartridge Unit
210	1	7085-248	Nut, Brg. Preload
211	1	7085-087	Fork, Clutch
212	1	7485-033	Block, Clutch Fork
213	1	3211-074	Seal, Oil



LEFT HAND TRANSMISSION

WYSONG SINGLE SPEED PRESS BRAKE
SERIES 190 & 225
L H TRANSMISSION

ITEM	QTY.	PART NUMBER	DESCRIPTION
4	1	7085-247	Eccentric
34	1	7485-465	Keeper, Eccentric
47	1	7085-238	Housing, LH Sec. Shaft Brg.
49	1	3211-084	Seal, Oil
50	1	7485-740	Shaft, Secondary
88	1	7485-459	Pinion, Secondary
89	1	7485-463	Sleeve, Eccentric
90	1	7485-454	Gear, Eccentric Bull
93	1	7085-250	Cap, Eccentric
110	1	7085-239	Housing, L H Trans.
111	1	7085-236	Cap, L H Sec. Shaft
112	1	7085-246	Cover, L H Transmission
147	1	3134-508	Bearing, Bronze Ecc.
147 A	1	3134-423	Bearing, Bronze Sec.
148	1	3211-099	Seal. Oil
149	1	3351-077	Ring, External Retainer
208	1	3351-089	Ring, External Retainer
250	1	3134-495	Bearing, Bronze



STANDARD BACK GAGE

STANDARD BACK GAUGE

ITEM	QTY.	PART NUMBER	DESCRIPTION	6	8	10	12
1121	2 Max.	7185-145	Bracket, Back Gauge				
1125	1	7185-148	Bar, Back Gauge Finger		X		
		7185-149	Bar, Back Gauge Finger			X	
1127	4	7185-152	Finger, Back Gauge				
1128	4	7185-191	Eyebolt				
1131	4	3356-020	Handle, Nut				

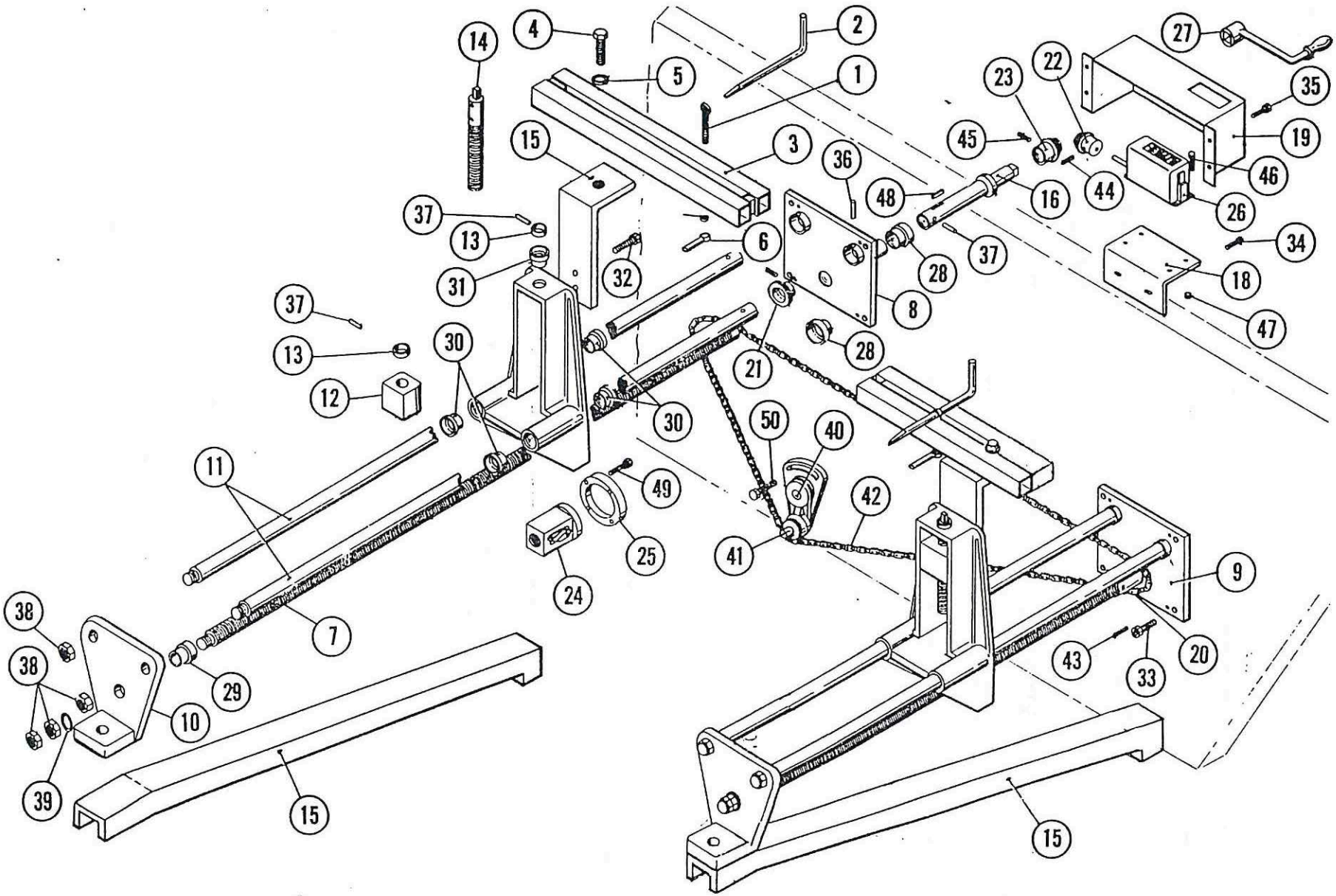


FIGURE 9 - OPTIONAL

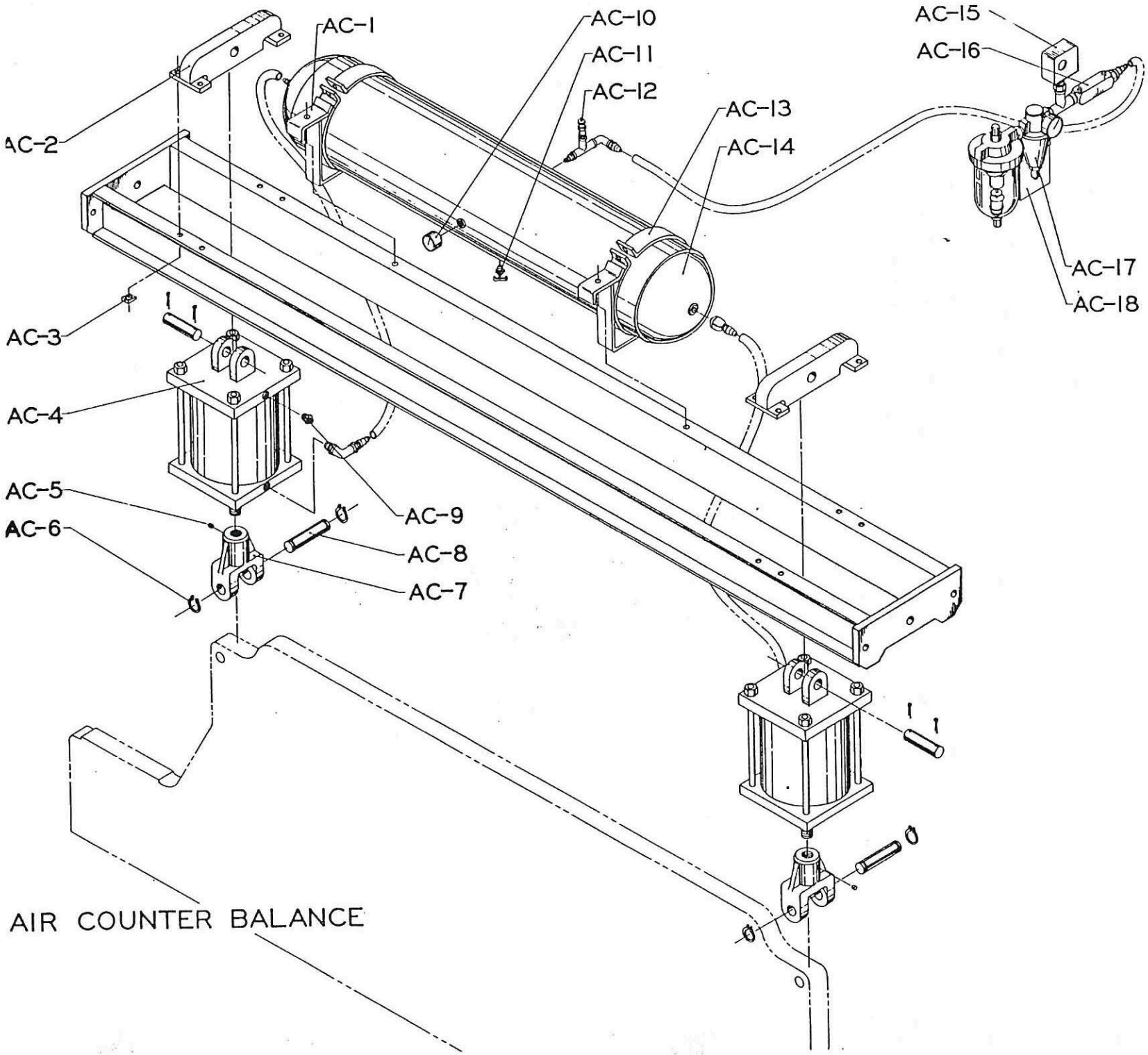
FRONT OPERATED BACK GAGE

WYSONG SINGLE SPEED PRESS BRAKE
SERIES 190 & 225
OPTIONAL PRECISION FRONT OPERATED BACK GAUGE

ITEM	QTY.	PART NUMBER	DESCRIPTION
1	4	7185-191	Eyebolt
2	4	7185-152	Back Gauge Finger
3	1	7185-149	Back Gauge Cross Bar
4	2		Hex Hd. Cap Screw
5	9		Flat Washer
6	4	3356-020	Nut Handle
7	2	7085-068	Stop Carrier
8	1	7085-069	Mounting Plate, R H
9	1	7085-070	Mounting Plate, L H
10	2	7085-071	Bearing Plate
11	4	7185-339	Guide Rod
12	2	7185-340	Slide Block
13	4	7185-341	Collar, 3/4 " Steel
14	2	7185-342	Elevation Screw
14 A	2	5093-560	Wrench, Ratchet
15	2	7085-387	Bracket, Back Gauge
16	1	7485-881 (190)	Stub Shaft, Long
	1	7485-350 (225)	Stub Shaft, Long
17	1	3356-375	Screw, Back Gauge R H
17 A	1	3356-377	Screw, Back Gauge L H
18	1	7185-352	Bracket, Counter Mounting
19	1	7085-072	Cover, Counter
20	Not Required		
21	2	7185-354	Sprocket
22	1	3436-001	Gear, Counter
23	1	3436-003	Gear, Counter
24	2	3356-315	Nut, Back Gauge
25	2	7485-840	Flange, Adaptor
26	1	2201-230	Counter
27	1	2203-022	Handle, Crank
28	3	3132-057	Bearing
29	2	3121-067	Bushing, Bronze
30	8	3120-283	Bushing, Bronze
31	2	3121-069	Bushing, Bronze
32	4		Hex Hd. Cap Screw
33	8		Hex Hd. Cap Screw
34	2		Hex Hd Cap Screw
35	4		Machine Screw
36	4		Roll Pin
37	6		Roll Pin
38	2	3324-028	Nut, 5/8 29 NE 101
39	2	3105-116	Thrust Washer
40	1	3412-300	Drive Tensioner
41	1	3412-250	Sprocket

WYSONG SINGLE SPEED PRESS BRAKE
SERIES 190 & 225
OPTIONAL PRECISION FRONT OPERATED BACK GAUGE

ITEM	QTY.	PART NUMBER	DESCRIPTION
42	CTL	3430-035	Chain, 3/8 " Pitch No. 35
42 A	1	3430-235	Link, Chain
43	8		Socket Hd Set Screw
44	1		Socket Hd Set Screw
45	1		Socket Hd Set Screw
46	4		Socket Hd Set Screw
47	4		Nut
48	2		Key
49	3		Socket Hd Cap Screw
50	2		Hex Hd Cap Screw
51	2	7185-355	Bracket, Support
52	1	7185-356	Counter, Gear Collet
53	2	3121-052	Flange Bearing, Bronze


AC-1
AC-2
AC-3
AC-4
AC-5
AC-6
AC-7
AC-8
AC-9
AC-10
AC-11
AC-12
AC-13
AC-14
AC-15
AC-16
AC-17
AC-18
AIR COUNTER BALANCE

WYSONG SINGLE SPEED PRESS BRAKE
SERIES 190 & 225
OPTIONAL AIR COUNTERBALANCE SYSTEM

ITEM	QTY.	PART NUMBER	DESCRIPTION
AC-1	2	7287-016	Bracket, Air Tank
AC-2	2	7285-518	Bracket, Cylinder Mounting
AC-3	8	3359-015	Washer, Bevel
AC-4	2	3743-032	Cylinder, Air
AC-5	2	7485-041	Plug
AC-6	4	3351-041	Ring, External Retaining
AC-7	2	7085-405	Clevis , Cylinder
AC-8	2	7485-851	Pin, Cylinder Clevis
AC-9	2	3755-015	Valve, Check
AC-10	1	3237-031	Gauge, Pressure
AC-11	1	3843-053	Fitting, Draincock
AC-12	1	3747-051	Valve, Relief
AC-13	2	7187-213	Strap, Tank Bracket
AC-14	1	3780-040	Receiver, Air
AC-15	1	4166-020	Switch, Pressure
AC-16	2	3755-012	Valve, Check
AC-17	1	3766-100	Regulator w/Gauge
AC-18	1	3775-050	Bracket, Regulator

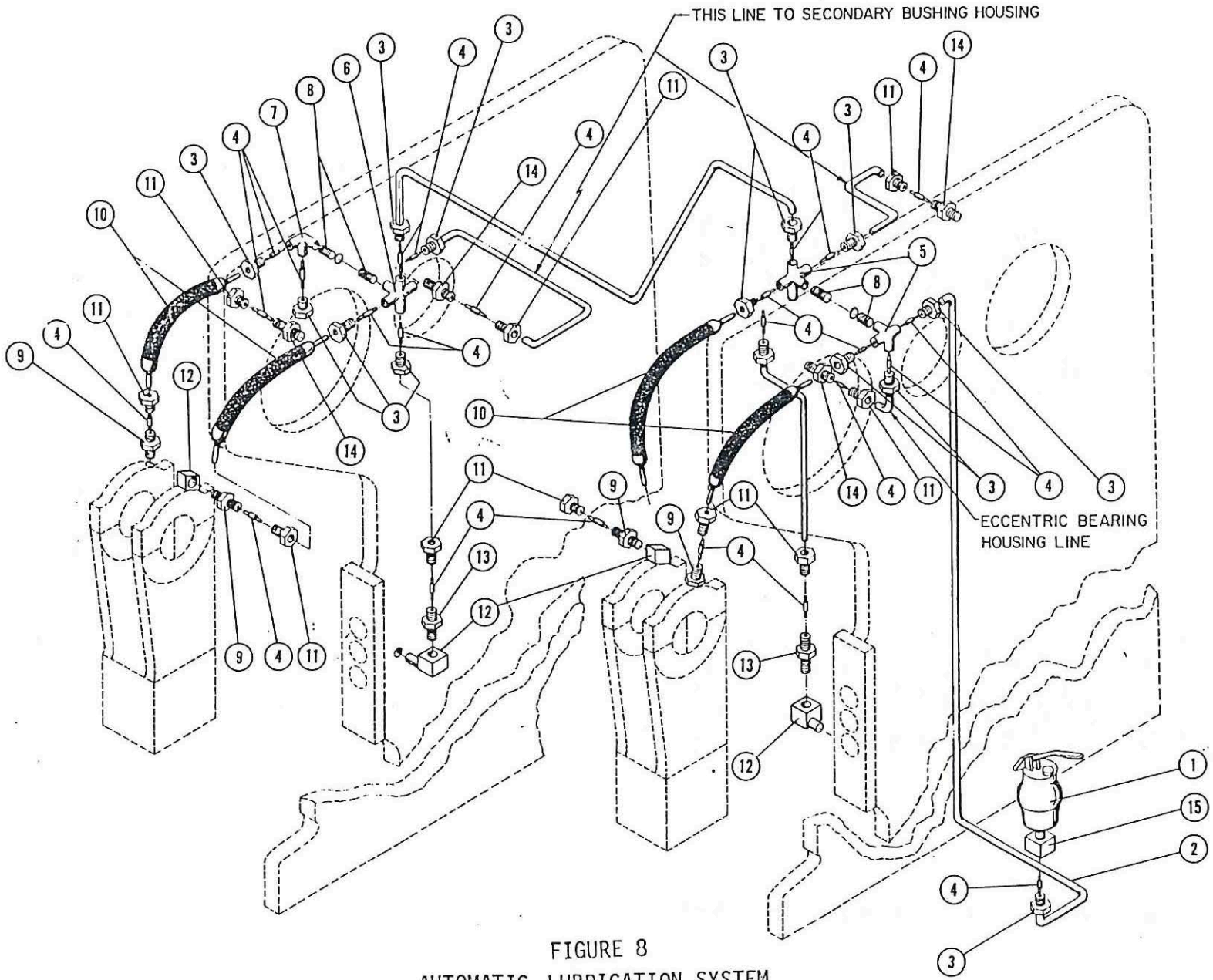
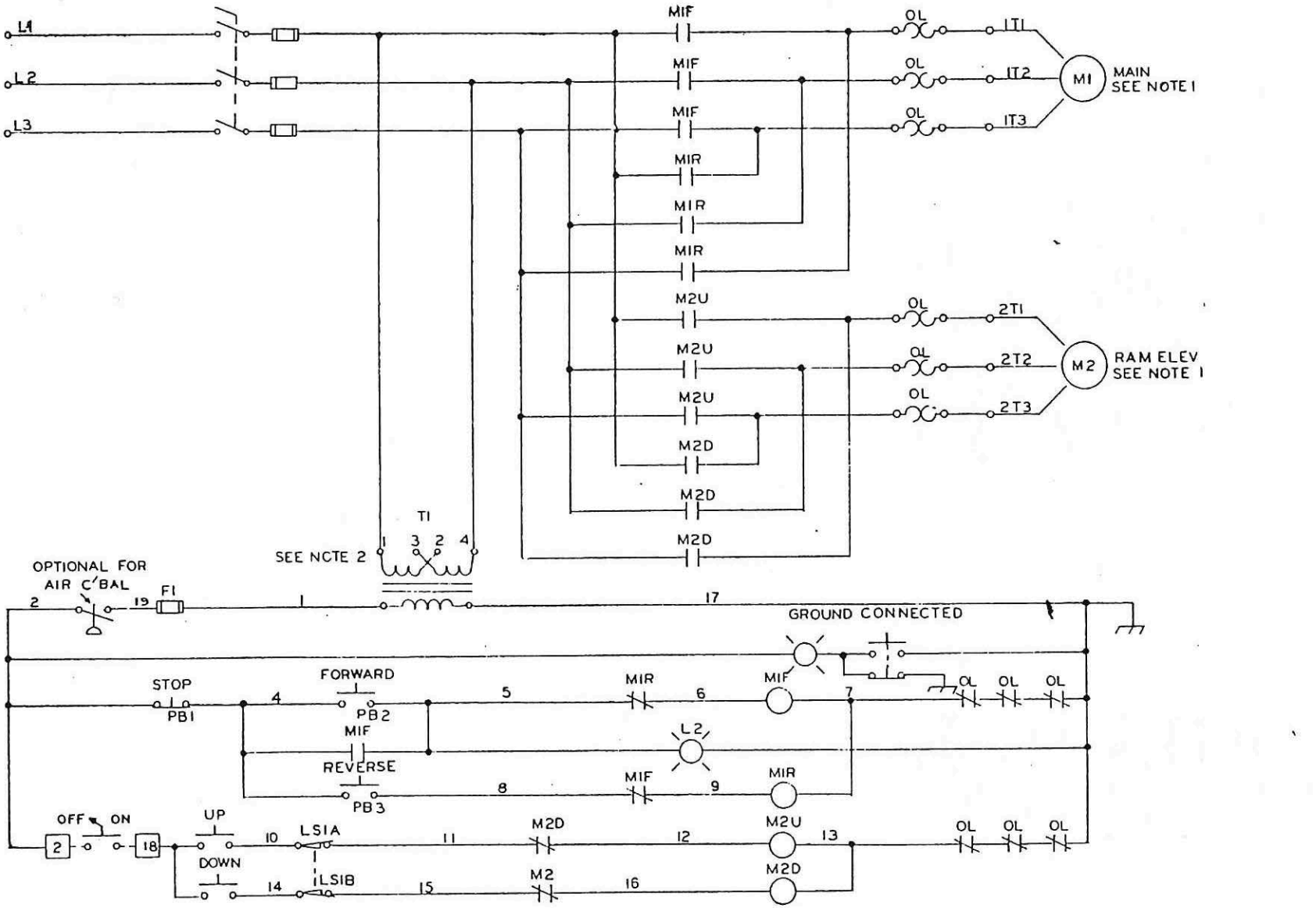


FIGURE 8
AUTOMATIC LUBRICATION SYSTEM

WYSONG SINGLE SPEED PRESS BRAKE
190 & 225 SERIES
AUTOMATIC LUBRICATION SYSTEM

ITEM	QTY.	PART NUMBER	DESCRIPTION
1	1	3231-005	Lubricator, Dia -P, D 2280
2	CTL	3243-004	5S-20 5/32 OD x .020 Wall Tube
3	14	3223-004	Bushing, B 1371
4	24	3223-002	Sleeve, Compression B-1061
5	1	3227-132	Junction, Header, 4 Way
6	2	3227-140	Junction Header, 5 Way
7	1	3227-102	Junction Header, 3 Way
8	4	3835-001	1/8 " Close Nipple
9	2	3235-013	Meter Unit, FSA-O
10	4	3225-014	Hose, 14" B-3530
11	10	3223-003	Nut, Compression B-1095
12	4	3221-005	Connector, Elbow 90o
13	1	3221-010	Adapter, A-3080
14	2	3235-015	Meter Unit, FSA-2
15	2	3235-035	Meter Unit , FSA-00
16	4	3235-014	Meter Unit, FSA-1



NOTE 1
CONSULT MOTOR NAME PLATE TO DETERMINE WINDING CONNECTION FOR 230V. OR 460V. WHEN CHANGING VOLTAGE HEATERS MUST ALSO BE CHANGED

NOTE 2
FOR 460V. OPERATION CONNECT 2 TO 3
FOR 230V. OPERATION CONNECT 1 TO 3, 2 TO 4

ON UNITS WITHOUT SELECTOR SWITCH
INSTALL JUMPERS BETWEEN 2 & 18

PRESS BRAKE WITH POWER RAM ADJUSTMENT & REVERSING

-71-322

ELECTRICAL PARTS

QTY.	PART NUMBER	DESCRIPTION
1	4171-109	Switch, C360SD62 60 A. 600V. w/60A. 600 V. Fuse Clips
1	4171-110	Switch, C360SD63 100A. 600V. w/ 100A. 250V Fuse Clips
1	4171-126	C360AE Lever Operator Mechanism
1	4171-132	C360KJ4 Door Interlock
1	4156-046	Main Starter, AH34-233U w/3 O.L. Rev. Starter, 110V AC Coil, Main Drive
1	4156-015	Ram Elevation Starter, AH34-033U w/3 O.L. Rev. Starter, 110V Coil
1	4177-005	.150 KVA 230/460 115V Transformer
1	4128-007	AH62-3 PB Opr. w/extended Button
4	4128-006	AH62-2 PB Opr. Std.
4	4130-001	A00 Contact Blocks
1	4130-002	AOC Contact Blocks
1	4126-035	OB4PT-20G Green Push to Test Light
1	4122-004	OMP-4 "Stop" Legend Plate
1	4122-006	OMP-14 "Forward" Legend Plate
1	4122-007	OMP-15 "Reverse" Legend Plate
1	4122-046	OMP-1 Special "Ground Light" Legend Plate
1	4321-205	A-30CH2508LP Nema 12 Enclosure
1	4321-155	A30P24 Panel
1	4216-252	Pilot Light 1010EL Amber
1	4326-023	BAF-1 1 Amp 250 volt 1/4 x 1-1/4 Fuse
1	4329-023	3792 Fuse Block
1	7043-055	Wysong Ram Adj. Nameplate
1	4160-009	10250T-151-13 2-position Key Opr. Selector Switch
1	4130-011	10250T1 Contact Block 1 N.O. - 1 N.C.
1	4122-043	OMP-48 Off-On Legend Plate

OPTIONAL FOR AIR COUNTERBALANCE: