



MODEL "270"

HYDRAULIC HOG BREASTBONE OPENER SAW

PARTS & SERVICE MANUAL



BEST & DONOVAN

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MODEL "270" HYDRAULIC HOG BREASTBONE OPENING SAW

WARRANTY

Best & Donovan warrants the machine against defective parts & workmanship for six (6) months from date of factory shipment. In the fulfillment of its warranty, the sole obligation of Seller shall be to repair or replace, at its option F.O.B. its factory, shipping charges prepaid, and which after inspection by Seller are found to be defective. Buyer shall notify Seller of defect in writing, promptly upon discovery, within the warranty period. This warranty does not cover defects caused by corrosion or normal deterioration. It does not extend to consequential damage, loss or delay associated with a warranty defect and it does not cover any costs of labor, travel or other expenses associated with the repair or replacement of defective parts. Seller assumes no liability for product loss or other claims whatsoever arising out of the use or application of the machine in Meat Slaughtering/Processing operations, whether the machine is used alone or in conjoint use with other Meat Slaughtering/Processing Machines or Processes.

This warranty is voided if repairs, replacements or alterations are made by others without prior authorization by Seller. Notwithstanding the foregoing, Seller's warranty obligations with respect to any items not manufactured by Seller shall not exceed the obligations undertaken by the manufacturer thereof under express warranty to the Seller. This express warranty is in lieu of all other warranties of fitness of the machine for any particular purpose.

SERVICE INFORMATION AND PREVENTATIVE MAINTENANCE SCHEDULE FOR BEST & DONOVAN

BEST & DONOVAN REALIZES THAT THERE MAY BE MANY DIFFERENT APPROACHES TO PROPER MAINTENANCE, ASSEMBLY, DISASSEMBLY, AND ADJUSTMENT PROCEDURES. THE FOLLOWING PROCEDURES SHOULD BE USED AS A GUIDELINE AND WHETHER ACCEPTED OR USED IN THEIR ENTIRETY OR PARTIALLY, IS NOT A SUBSTITUTE FOR PROPER MECHANICAL ABILITY AND/OR KNOWLEDGE.

ONLY PERSONNEL WITH PROPER MECHANICAL AND TECHNICAL SKILLS SHOULD ATTEMPT ANY SERVICE PROCEDURES.

THE FOLLOWING SERVICE INFORMATION WILL DESCRIBE IMPORTANT NOTATIONS REQUIRING SPECIAL ATTENTION BY THE TECHNICIAN(S) PERFORMING SERVICE TASKS. THEY ARE : **WARNING, CAUTION, and NOTE.**

WARNING : WILL DESCRIBE CONDITIONS THAT EXIST OR POTENTIALLY EXIST THAT CAN CAUSE INJURY OR DEATH.

CAUTION : WILL DESCRIBE CONDITIONS THAT EXIST OR POTENTIALLY EXIST THAT CAN CAUSE INJURY OR EQUIPMENT FAILURE.

NOTE : WILL DESCRIBE A SPECIFIC HELPFUL PROCEDURE.

MODEL "270" HYDRAULIC BREASTBONE OPENER
SINGLE GEAR MODEL #8800070
DOUBLE GEAR MODEL #8800080
TOOL SPECIFICATIONS

| | |
|--------------------------------|--|
| NET WEIGHT | 33 LBS. (14.96 Kilos.) |
| COUNTERBALANCE PART NO. | 6342500 |
| MOTOR | 7710048 |
| HYDRAULIC UNIT | 9710003 |
| FLOW RATE : | 9.0 G.P.M. (PRESET) |
| POWER SUPPLY TO PUMP UNIT | 220/440 VOLT |
| CONTROL VOLTAGE | 24 VOLT |
| RESERVOIR FLUID CAPACITY | 30 GALLONS |
| RESERVOIR FLUID | TEXACO - RANDO 32 OR ITS EQUIVALENT |

NOTE : PUMP UNIT BUILT FOR "270" & "770" SAWS ONLY - G.P.M. SET AT TIME OF ASSEMBLY FOR INDIVIDUAL MODEL.

NOTE : TEMPERATURE OF INSTALLATION AREA MAY REQUIRE A DIFFERENT VISCOSITY IN FLUID. CHECK WITH FLUID DEALER FOR CORRECT OIL.

| | |
|--------------------------------|---------|
| SAW BLADES AVAILABLE | |
| 8" DOUBLE GEAR - 5 POINT BLADE | 6104400 |
| 8" DOUBLE GEAR - 8 POINT BLADE | 6104200 |
| 9" SINGLE GEAR BLADE | 6118500 |

TOOL APPLICATIONS : BREASTBONE OPENING OF PIGS & SOWS

SAFETY RULES

1. THE SAW CAN ONLY BE USED AS DESCRIBED IN THE APPLICATIONS SECTION.
2. ONLY PROPERLY TRAINED PERSONNEL SHOULD OPERATED THIS SAW.
3. DO NOT USE THE SAW WITH A DULL BLADE.

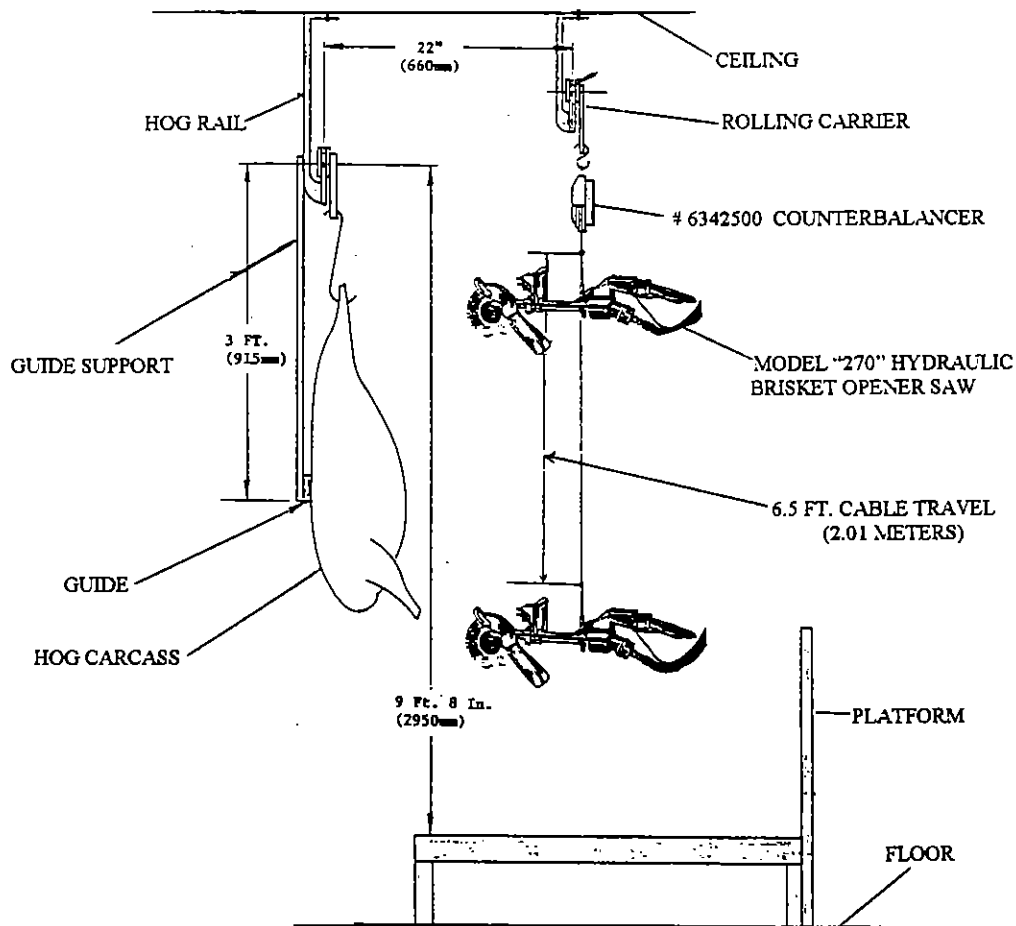
WARNING : FOR CHECKING. CLEANING, MAINTENANCE, SAW BLADE CHANGING, SUSPENDING ON THE BALANCER AND AFTER SHIFT, THE SAW MUST BE DISCONNECTED FROM ITS POWER SOURCE.

WARNING : NEVER HANDLE THE BLADES UNLESS WEARING PROPER SAFETY GLOVES.

CAUTION : WHILE OPERATING. USE EXTREME CAUTION TO AVOID THE DANGER OF ACCIDENTS. ANY MISUSE OF THE TOOL CAN LEAD TO CONSIDERABLE INJURIES AND/OR DAMAGES.

MODEL "270" INSTALLATION

The Model "270" Breastbone Opener should be installed according to the diagram below for maximum performance and the ease of operation for the employee.



SAW CONNECTION

1. Purge the hydraulic lines at the quick disconnects before connecting the hoses to the saw.
2. Fill case drain of the saw motor so that no damage is done at start-up.
3. Fill the saw hydraulic hoses before attaching the quick disconnects.

NOTE : The reason for filling the lines and motor before first start-up or after maintenance work where a loss of fluid occurs is to prevent cavitation to the motor which could cause extensive and costly damage to the saw unit.

4. Connect the 24 Volt control line to the saw.
5. Jog the motor to check the rotation. If not running counterclockwise, reverse the pressure and return lines to achieve correct rotation.

MODEL "270" SERVICE & MAINTENANCE INFORMATION

IMPORTANT

Before disassembling a tool, the area around the bench should be clean and free from metal chips and other foreign matter. It is good practice to spread a clean cloth on the work bench to prevent the loss of small parts.

It is important that all parts are thoroughly cleaned and inspected before assembling. The slightest particles of dirt could create premature mechanical failure.

PREVENTATIVE MAINTENANCE

Preventative maintenance is the first step of good maintenance. A periodic check should be made to replace worn parts. A worn part replaced in time may save extensive repairs later.

This is a precision tool made up of precision parts and should be handled with extreme care. Do not squeeze parts in holding devices or otherwise misuse. Too much pressure exerted in a holding device may cause distortion of the part. Be sure you have the correct tools before assembling or disassembling this machine. When assembling parts which have a press fit, apply pressure evenly. To assemble or disassemble bearings, the pressure should be applied to the face of the inner or outer race, whichever is adjacent to the mating part. If this is not done, damage to the races could cause failure to the bearing.

Open bearings may be washed only in fresh, clean solvent. Bearings should be washed in a container with screened false bottom to prevent settling from being stirred up. After washing, blow solvent out of bearing with dry, clean air and repack with a good grade bearing grease.

NOTE : DO NOT SPIN BEARING, OR ALLOW IT TO SPIN WHEN BLOWING OFF SOLVENT. DO NOT ATTEMPT TO WASH A SEALED OR SHIELDED BEARING.

Before Reassembling, all parts should be cleaned and inspected, replacing any worn or defective parts. Applying a small amount of grease to springs and small parts often hold them in place while reassembling. Lubrication is recommended for the installation of O-Rings. When repairs are necessary, consult the drawing containing the part for identification. When ordering repair parts, be sure to list MODEL NUMBER, PART NUMBER & PART DESCRIPTION to assure prompt and accurate shipment of your order.

HYDRAULIC OIL PREVENTATIVE MAINTENANCE

ALWAYS run the new Hydraulic oil, whatever type you are using, through a filtration system before adding to any part of the hydraulic system. A 10 micro filter should be the largest filter used. Any impurities in the system could and will eventually cause damage.

LUBRICATION

The Bevel Gear (5) and Double Gear (17) in the Frame (8) should be lubricated lightly (one) once during the shift and the same at night during maintenance check through the grease fittings (1) on rear of the Frame with a USDA approved food grade grease. Once a week the remove Frame Cover(), clean out old grease and purge new through bearings.

CLEANING

WARNING : DISCONNECT THE SAW FROM ITS POWER SOURCE AND CONTROL CIRCUIT BEFORE CLEANING IS DONE.

NOTE : HIGH PRESSURE WATER is to be avoided in the cleaning of the saw exterior. This type of water will penetrate the assembly and the electrical enclosures seals possible causing damage to interior parts and electrical failure to the control circuit.

It is recommended to clean the exterior with steam and lightly scrubbing the soiled areas with a USDA approved cleaning pad. The steam will clean out any deposits in the areas that can not be reached by the cleaning pad.

DOUBLE GEAR BLADE INSTALLATION

WARNING : ALWAYS MAKE ABSOLUTELY CERTAIN THAT YOUR SAW IS DISCONNECTED FROM THE POWER SOURCE BEFORE REMOVING OR INSTALLING THE SAW BLADE.

Caution : If a tooth should break off a blade while the tool is in operation, the operator or someone else could be injured. Always inspect the blades for fatigue cracks before installing or using.

Place the saw blade on the Bevel Gear (5), aligning the pins of the gear with the slots in the arbor (center hole) of the blade. Incorrect seating of the blade Will cause bad cuts and danger to the operator. The teeth of the blade should point downward in a counter-clockwise direction. Screw the Saw Nut & Cover (1) onto the threaded collar of the bevel Gear (5) making sure the saw blade stays seated correctly. Thread is right handed. Insert a pin through the blade, locking it against the frame (8). Using the Wrench (6114050 furnished with the tool) and a small hammer, tighten the Saw Nut (1) securely.

ASSEMBLING OF DOUBLE GEAR STANDARD

1. Assemble the motor and attach the pinion gear (23)
2. Install needle bearing (22) into the standard (8) with the lettering on the bearing toward the motor.
3. Install bare standard (8) over pinion gear (23) and secure with two bolts (20).
4. Screw the double gear stud (9) fully into the standard.
5. Using a pinion gauge No. 8840100 (not shown), set on top or end of the pinion gear and with a feeler gauge measure the clearance between the end of the gauge and the shank of the stud (9). Record the dimension.
6. Remove the standard (8) from the motor and install the correct amount of shims (18), same as the recorded reading. Reinstall pinion.
7. Reinstall standard with two bolts to motor. Remove the gear stud (9).

ADJUSTMENT OF DOUBLE GEAR BEARINGS AND INSTALLATION OF GEARS INTO THE STANDARD.

1. Make sure the outer bearing races (14) are installed correctly on the double gear (17) by pressing in a vise or arbor press. Make sure they are pressed fully all around.
2. Press the first bearing (14) onto the double gear stud (13). Insert the stud into the double gear (17). Slide a lubricating spacer (16) and second bearing onto the stud. **DO NOT LUBRICATE AT THIS TIME.**
3. Obtain 1/2" pipe nipple approx. 2" long or something comparable. and slide it over the threaded end of the stud
4. With vise or arbor press, squeeze the head of the stud and pipe nipple together compressing the bearings. While squeezing make sure the gear will rotate freely. If the gear starts to seize, the assembly will have to be disassembled and shims (15) added next to the spacer (16) to free the bearings. Proper loading of the bearings is accomplished when 90-95 torque pounds are applied and the bearing spin freely and there is no side movement in the gear.
5. Disassemble the bearings and pack with a good high temperature grease. USDA approved preferable, then reassemble.
6. Install gear assembly into the standard and slowly tighten. You are now trying to set the proper backlash between the pinion gear and the double gear. This is accomplished by adding, if necessary, shims (18). The correct backlash is when you can just feel a minimum of play between the two gears meshing. There has to be some backlash or there will be premature wear. Tighten the stud using caution not to pull too tight. Install lock washer (11) and nut (12). Hold the stud (13) while tightening nut (12) very tight. Lock the washer. Pack standard 2/3 full of grease.
7. Press bearing (4) into the saw gear (5). Press the stud (9) into the standard. Press bearing and gear assembly onto the stud (9).
8. Check the clearance between spur gear on the saw gear and spur gear on double gear. There should be a clearance of approximately .010". To get this clearance, add shims (6) under bearings (4) to raise the gear.
9. Install locking nut (3). Tighten.

DOUBLE GEAR ASSEMBLY CONTINUED

10. Install bearing lock nut (2) and tighten.
11. Install cover.
12. Grease each fitting with two (2) shots of grease.
13. Be sure all parts have been thoroughly tightened.

SINGLE GEAR BLADE INSTALLATION

Refer to the double gear blade installation directions. Procedure is the same only with different part references. Blade removal is taking the same steps in reverse.

ASSEMBLY FOR EXTENSION HOUSING, STANDARD, & BLADE GEARING

1. Thread female clutch (17) onto the hydraulic motor.
2. Make sure that the male clutch end of the extension shaft (18) fits tight in the male clutch. There is supposed to be no play in those mating pieces.
3. Press the pinion bearing (21) onto the pinion (22) using a pipe nipple that matches up to the inner race of the bearing. Slide the pipe nipple over the threaded end of the pinion and press between the end of the pipe and the flat end of the pinion in a vise. Make sure the pinion is seated against the shoulder of the pinion.
4. Clamp the extension shaft (18) in a soft jaw vise lengthwise and screw the pinion assembly into the end.
5. Slide the extension shaft sleeve (19) over the shaft (18) and insert this assembly into the extension housing (15). Use two of the attaching bolts and tighten this assembly to the motor adapter.
6. Take the frame (4) and screw the bevel gear stud (12) all the way in.
7. Attach the frame (4) to the extension housing (15) with two opposing bolts (14).
8. Use the pinion gauge Part No. _____ and place it lengthwise between the underside of the stud and top of the pinion. Using a feeler gauge record the reading, if any, between the pinion gauge and whichever surface has the gap.
9. If there is a gap remove the frame and extension shaft assembly and place shims (20) under the bearing to make up the measurement taken from the pinion gauge.
10. Slide the extension shaft back into the extension housing making sure that the clutches mate correctly. The pinion is now correctly set to match the bevel gear.

BEVEL GEAR SETUP

1. In a vise, press the outer race halves into the bevel gear.

CAUTION :

Make sure that the races are seated against the bevel gear. Take care to protect the gear teeth for damage when pressing bearing halves in.

BEVEL GEAR SETUP CONTINUED

2. Press one of the bearing inner races onto the bevel gear stud using a pipe nipple that matches the inner race. Make sure the bearing is seated against the stud head for proper shimming in the bevel gear.
 3. Slide a Lubricating spacer over the stud.
 4. Insert the stud assy. through the Bevel Gear from the threaded collar side.
 5. while holding the bevel gear slide the other half of the bearing over the threaded end of the stud on the geared side.
 6. In a vise, use the pipe nipple over the threaded end of the stud and a solid block the size of the stud head to compress the bearings together **slowly**. Be sure to make sure that the bevel gear can rotate the entire time that the tightening is being done. If the gear begins to tighten, take the threaded side inner bearing off and insert the shims
- (5) till the bevel gear is able to turn freely without and side play at a torque pressure of 80-90 lbs. The Bevel Gear is now set.

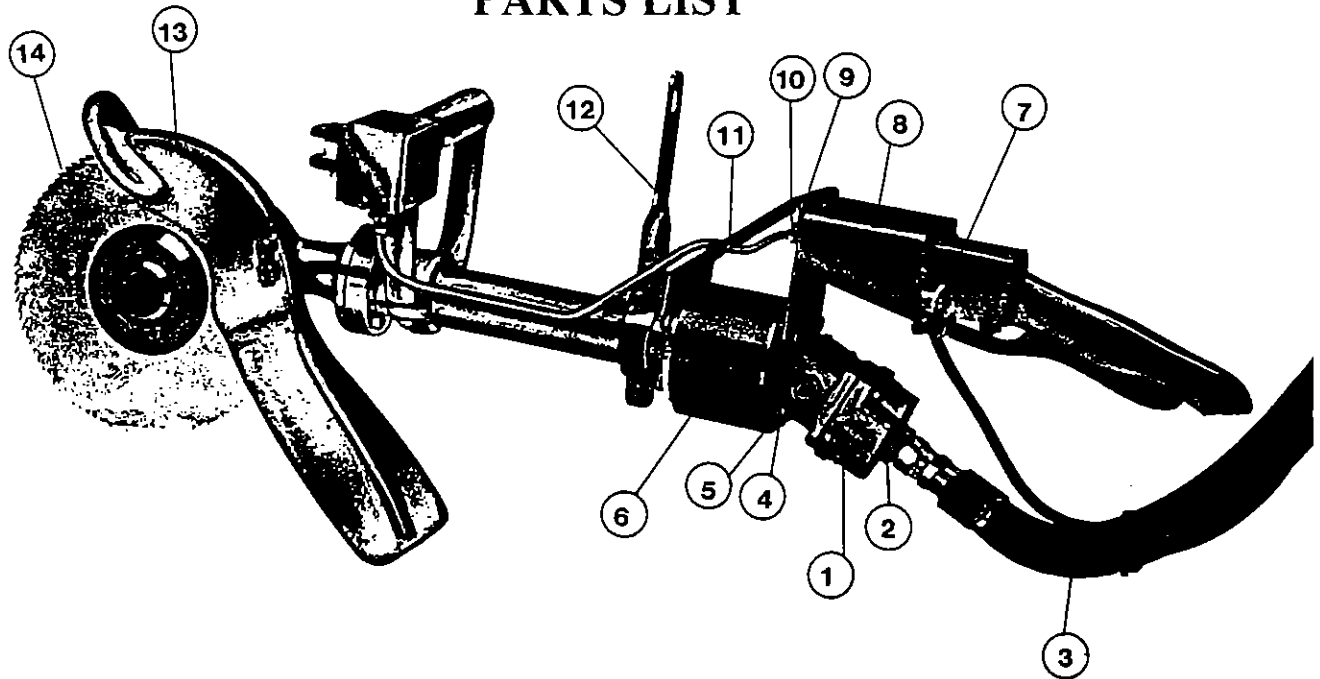
SETTING THE BEVEL GEAR TO THE PINION

1. Screw the frame (4) back onto the extension shaft (15) using all the attaching bolts. Go ahead and tighten the bolts connecting the extension housing to the motor adapter.
2. Screw the bevel gear assy. into the frame (4) slowly being careful to match up the pinion & bevel gear teeth.
3. The torque on the bevel gear in the frame is 80-90 lbs.. As the tightness of the stud gets close to starting the torque gauge to measure make sure that there is a minimal amount of backlash between the pinion and bevel gear.

NOTE : Backlash is when the bevel gear teeth can be moved side to side without moving the pinion gear at all. If there is no backlash, premature wear will occur to the parts involved.

4. If there is point to where there is no backlash, remove the bevel gear assy. and add a small amount of shims (5) to the underside of the bevel gear that meets the frame.
5. Once the backlash is set the bevel gear is ready to be locked in place. Hold the pressure on the bevel gear stud (12) while tightening the stud locknut (2). You do not want the gear to loosen up at this point.
6. After the nut is tightened knock over the locking washer (3) to hold the nut in place.
7. Assemble the blade guard (10) and screw on the blade nut (13).

MODEL "270" BREASTSBONE SAW PARTS LIST

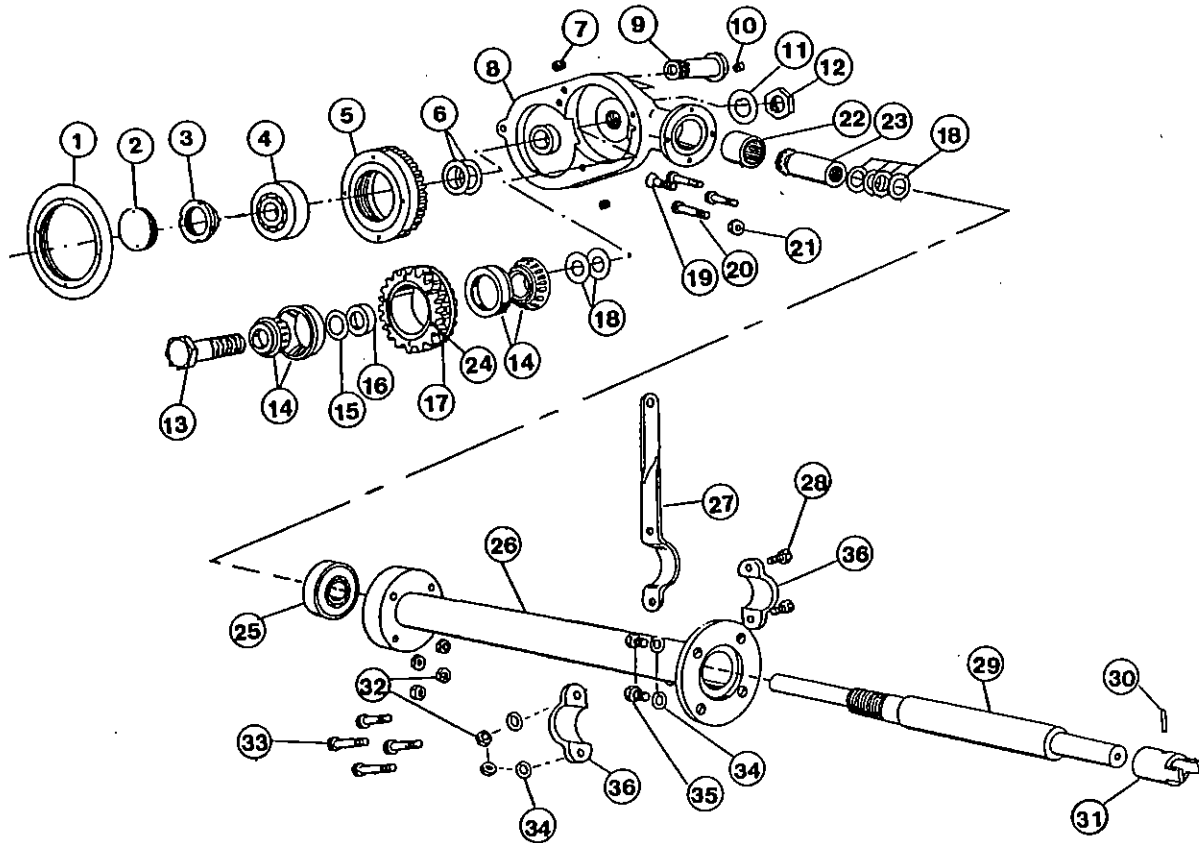


| <u>REF NO.</u> | <u>PART NO.</u> | <u>DESCRIPTION</u> | <u>QTY.</u> |
|----------------|-----------------|-------------------------------|-------------|
| 1 | 7710048 | MOTOR | 1 |
| 2 | 7704215 | HYDRAULIC HOBE CONNECTOR | 2 |
| 3 | 7704211 | TWIN HYDRAULIC HOSES | 1 |
| 4 | 9801410 | HEX HEAD SCREWS | 4 |
| 5 | 9801935 | LOCKWASHERS | 4 |
| 6 | 7735100 | MOTOR ADAPTOR | 1 |
| 7 | 9901294 | SOCKET HEAD SCREWS | 2 |
| 8 | 7235115 | REAR HANDLE COUNTERWIEGHT | 1 |
| 9 | 9801936 | LOCKWASHERS | 2 |
| 10 | 9801427 | HEX HEAD SCREWS | 2 |
| 11 | 7710058 | REAR HANDLE ADAPTOR | 1 |
| 12 | 8883000 | HANGER | 1 |
| 13 | 8856500 | DOUBLE GEAR BLADE GUARD | 1 |
| 14 | 6104400 | DOUBLE GEAR 8"- 5 POINT BLADE | 1 |
| | 6104200 | DOUBLE GEAR 8"- 8 POINT BLADE | 1 |
| | 6118500 | SINGLE GEAR 9" BLADE | 1 |

NOT SHOWN

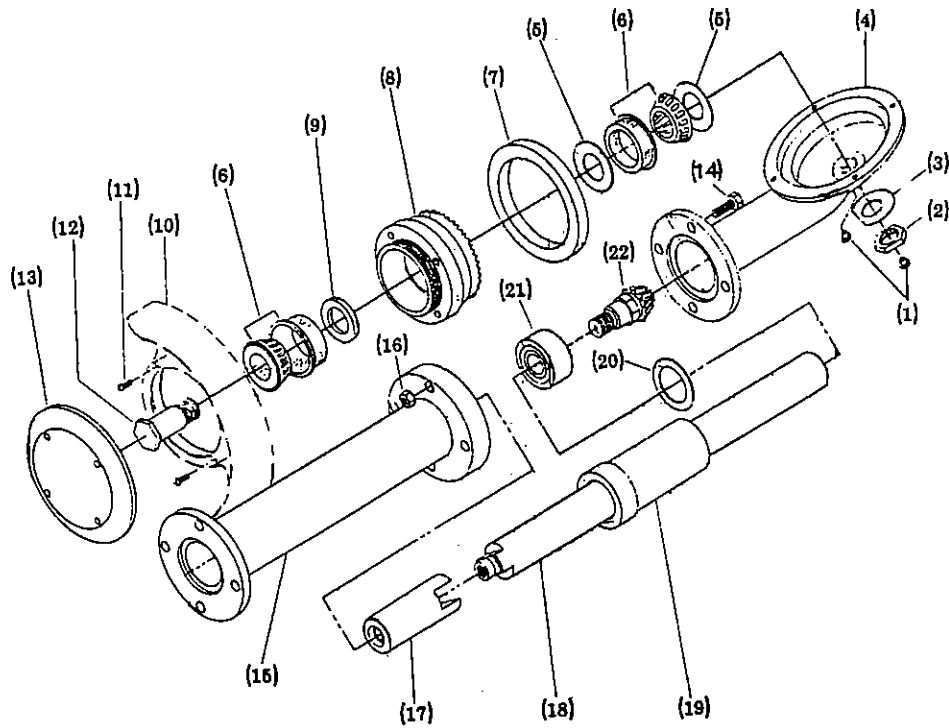
| | | |
|---------|------------------------------|---|
| 7710054 | MOTOR-FEMALE CLUTCH KEY | 1 |
| 7704216 | CASE DRAIN HYDRAULIC FITTING | 1 |
| 7710200 | CASE DRAIN HYDRAULIC HOSE | 1 |

MODEL "270" DOUBLE GEAR, STANDARD & EXTENSION ASSEMBLIES



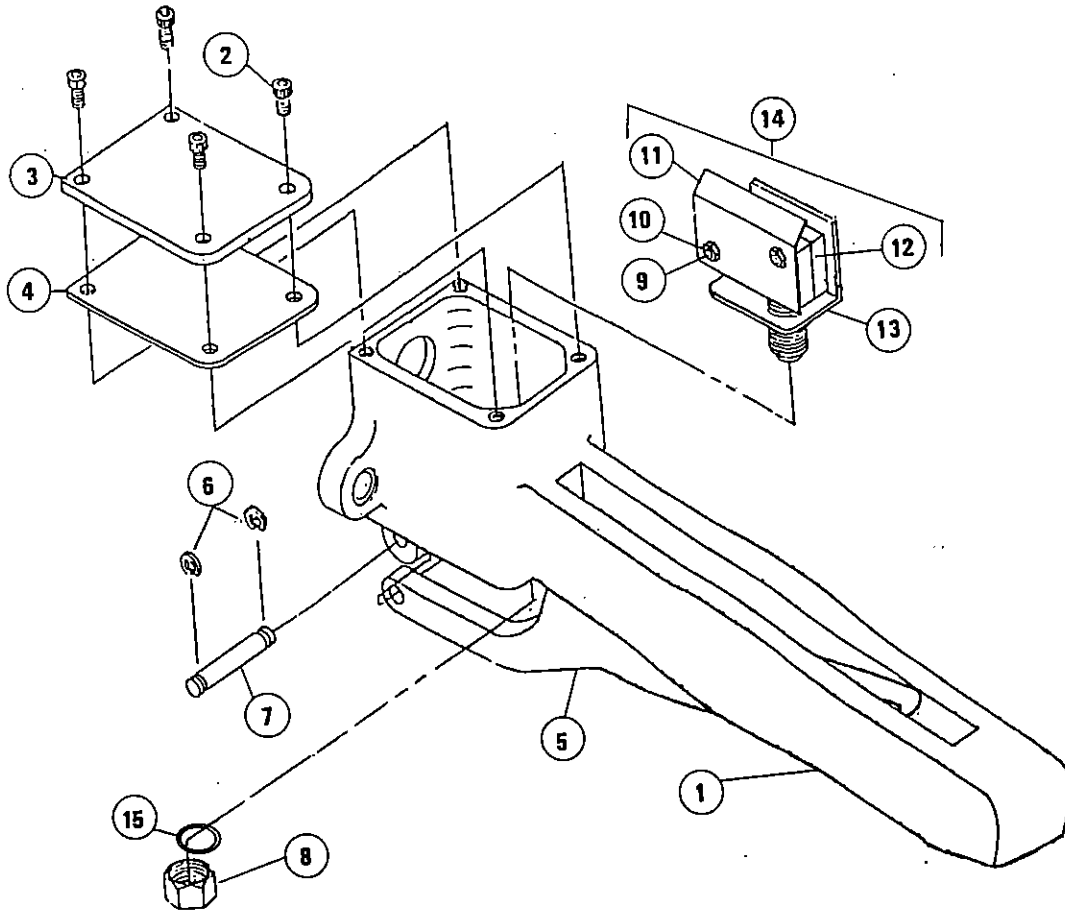
| REF. NO. | PART NO. | DESCRIPTION | QTY. |
|------------------|----------|---------------------------------------|-------------|
| 1 | 8845000 | Saw Nut | 1 |
| 2 | 8850000 | Bearing Lock Nut | 1 |
| 3 | 8862100 | Lock Nut (Left Hand Threads) | 1 |
| 4 | 8818093 | Bearing | 1 |
| 5 | 8848059 | Saw Gear Assembly | 1 |
| 6 | 8849500 | Shims | as required |
| 7 | 9902462 | Lock Nuts | 2 |
| 8 | 8853000 | Standard | 1 |
| 9 | 8862000 | Stud for Saw Gear (Left Hand Threads) | 1 |
| 10 | 6036093 | Grease Fitting | 2 |
| 11 | 8846600 | Lock Washer | 1 |
| 12 | 8847500 | Lock Nut | 1 |
| 13 | 8846500 | Stud for the Double Gear | 1 |
| 14 | 8819093 | Roller Bearings | 2 |
| 15 | 8819200 | Shim .002 | as required |
| | 8819203 | Shim .003 | as required |
| | 8819205 | Shim .005 | as required |
| | 8819210 | Shim .010 | as required |
| 16 | 8819100 | Spacer | 1 |
| 17 | 8854059 | Double Gear Assembly | 1 |
| 18 | 8840110 | Shim .003 | as required |
| | 8840105 | Shim .005 | as required |
| | 8840103 | Shim .010 | as required |
| 19 | 9900443 | Flat Head Screw | 1 |
| 20 | 9901413 | Hex Head Bolts | 3 |
| 21 | 9901678 | Nuts | 4 |
| 22 | 8837093 | Needle Bearing | 1 |
| 23 | 8840000 | Bevel Pinion | 1 |
| 24 | 7230493 | Screws | 6 |
| 25 | 8817093 | Bearing | 1 |
| 26 | 8880000 | Extension Housing 9" | 1 |
| 27 | 8883000 | Hanger | 1 |
| 28 | 9901412 | Screws | 2 |
| 29 | 8881000 | Extension Shaft 9" | 1 |
| 30 | 9902050 | Pin | 1 |
| 31 | 8881500 | Clutch - Male | 1 |
| 32 | 9901678 | Nuts | 6 |
| 33 | 9901492 | Screws | 4 |
| 34 | 9901935 | Lockwashers | 4 |
| 35 | 9901410 | Hex Head Bolts | 2 |
| 36 | 7598991 | Clamp | 1 |
| NOT SHOWN | | | |
| | 6114050 | Pin Wrench for Saw Nut | |
| | 8861500 | Pin Wrench for Bearing Lock Nut | |
| | 6114450 | Pin Wrench for LockNut #3 | |
| | 2102900 | Grease Gun | |
| | 2108000 | Grease Gun Nozzle | |

MODEL "270" SINGLE GEAR PARTS LIST



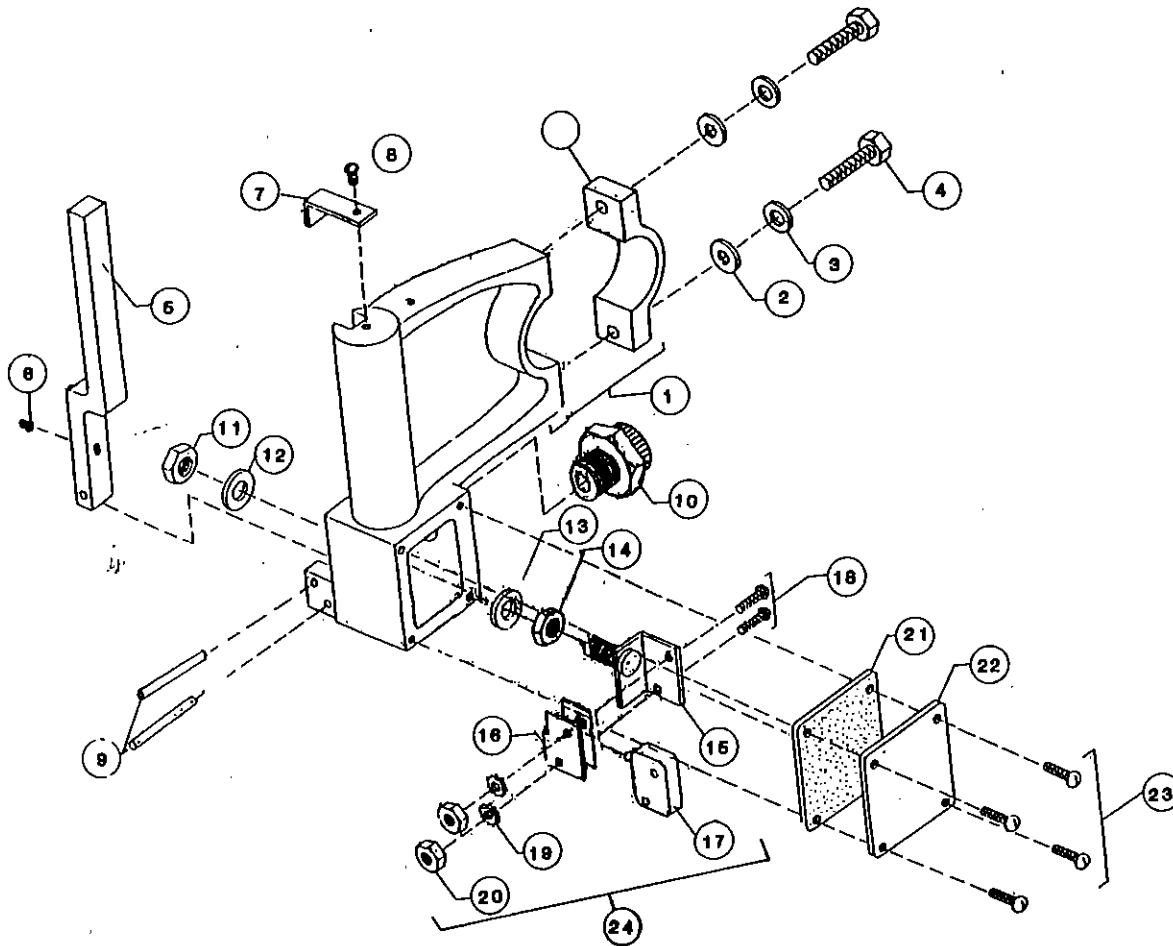
| <u>REF. NO.</u> | <u>PART NO.</u> | <u>DESCRIPTION</u> | <u>QTY</u> |
|------------------|-----------------|--------------------|-------------|
| 1 | 6036093 | Grease Fitting | 2 |
| 2 | 8917500 | Locknut | 1 |
| 3 | 8917793 | Washer | 1 |
| 4 | 8916500 | Frame | 1 |
| 5 | 4554700 | Shim .003 | as required |
| | 4554800 | Shim .005 | as required |
| | 4554900 | Shim .010 | as required |
| 6 | 8819093 | Roller Bearing | 2 |
| 7 | 8917993 | Seal - Double | 1 |
| 8 | 8921000 | Bevel Gear | 1 |
| 9 | 8917200 | Spacer | 1 |
| 10 | 8918500 | Guard | 1 |
| 11 | 9900166 | Screws | 4 |
| 12 | 8917000 | Stud | 1 |
| 13 | 7706300 | Saw Nut | 1 |
| 14 | 9901492 | Hex Head Screws | 4 |
| 15 | 8880000 | Extension Housing | 1 |
| 16 | 9901678 | Nut | 1 |
| 17 | 7235105 | Clutch - Female | 1 |
| 18 | 8916100 | Clutch - Male | 1 |
| 19 | 8916000 | Sleeve | 1 |
| 20 | 8915602 | Shim .002 | as required |
| | 8915605 | Shim .003 | as required |
| | 8915610 | Shim .010 | as required |
| 21 | 8915793 | Ball Bearing | 1 |
| 22 | 8920000 | Pinion Gear | 1 |
| NOT SHOWN | | | |
| | 6117150 | Wrench for Saw Nut | |

MODELS "270" & "770" REAR HANDLE



| <u>REF. NO.</u> | <u>PART NO.</u> | <u>DESCRIPTION</u> | <u>QTY.</u> |
|---|-----------------|--------------------|-------------|
| 1 | 7706600 | Handle Only | 1 |
| 2 | 9902668 | Screws | 4 |
| 3 | 7706700 | Handle Cover | 1 |
| 4 | 7706900 | Gasket | 1 |
| 5 | 7706800 | Trigger | 1 |
| 6 | 1208193 | Retaining Clips | 2 |
| 7 | 6044500 | Trigger Pin | 1 |
| 8 | 6045500 | Switch Locknut | 1 |
| 9 | 9901671 | Nuts | 2 |
| 10 | 9901951 | Lockwasher | 2 |
| 11 | 6048500 | Insulator | 1 |
| 12 | 6048600 | Switch | 1 |
| 13 | 6047660 | Switch Bracket | 1 |
| 14 | 6047559 | Switch Complete | 1 |
| 15 | 6046093 | Seal Ring | 1 |
| 7710109 Handle Complete (includes parts 1 thru 15) | | | |

MODEL "270" FRONT HANDLE 7710250 COMPLETE HANDLE ASSEMBLY



| <u>REF. NO</u> | <u>PART NO.</u> | <u>DESCRIPTION</u> | <u>QTY</u> |
|----------------|-----------------|-----------------------|------------|
| 1 | 7710260 | Handle, Clamp & Cover | 1 |
| 2 | 9901986 | Washer | 2 |
| 3 | 9901935 | Lockwasher | 2 |
| 4 | 9901411 | Hex Head Bolt | 2 |
| 5 | 7710220 | Trigger | 1 |
| 6 | 9901857 | Set Screw | 1 |
| 7 | 7235110 | Trigger Retainer | 1 |
| 8 | 9902762 | Screw | 1 |
| 9 | 9902036 | Trigger Roll Pins | 2 |
| 10 | 2592700 | Electrical Fitting | 1 |
| 11 | 6045500 | Switch Nut | 1 |
| 12 | 6046093 | Seal Ring | 1 |
| 13 | 6046093 | Seal Ring | 1 |
| 14 | 6045500 | Switch Nut | 1 |
| 15 | 6047660 | Switch Bracket | 1 |
| 16 | 6048500 | Insulator | 1 |
| 17 | 6048600 | Switch | 1 |
| 18 | 9900037 | Screws | 2 |
| 19 | 9901951 | Lockwashers | 1 |
| 20 | 9901671 | Nuts | 2 |
| 21 | 7710235 | Gasket | 1 |
| 22 | 7710230 | Electrical Cover | 1 |
| 23 | 9902668 | Screws | 4 |
| 24 | 6047559 | Switch Complete | 1 |

(7710250 Handle Complete includes parts 1 thru 25)

(7710260 Handle, Clamp & Cover includes 1 & 22)