REEVES® ULTIMA™

INSTALLATION, OPERATION AND MAINTENANCE FOR SIZES: 1, 2, 3

WARNING: Because of the possible danger to person(s) or property which may result from improper use of products, it is important that correct procedures be followed. Products must be used in accordance with the Engineering information specified in the catalog. Proper installation, operation and maintenance procedures must be observed. The instructions in the instruction manuals must be followed. Inspections should be made as necessary to assure safe operation under prevailing conditions. Proper guards and other suitable safety devices or procedures as may be desirable or as may be specified in safety codes should be provided, and are neither provided by Master Power Transmission nor are the responsibility of Master Power Transmission. This unit and its associated equipment must be installed, adjusted and maintained by qualified personnel who are familiar with the construction and operation of all the equipment in the system and the potential hazards involved. When risk to persons or property may be involved, a failsafe device must be an integral part of the driven equipment beyond the speed reducer output shaft.

MASTER POWER TRANSMISSION

3300 Tenth St. / Columbus, IN 47201 / (812) 376-1100
www.master-pt.com

Installation, Operation and Maintenance

REEVES ULTIMA

OPERATION and FEATURES

REEVES ULTIMA is an adjustable speed drive designed to provide infinitely variable speed up to a 8 to 1 speed range. It is specifically designed to offer high starting torque, excellent shock resistance, long life and extremely easy maintenance. Total yearly maintenance can be performed in 10 minutes or less.

REEVES ULTIMA is available in many mounting configurations including:

NEMA C-face inputs and outputs
IEC B5 inputs
Metric and English outputs
Foot and flange mounts

REEVES ULTIMA employs either DODGE APG parallel gearing or MASTER XL right angle worm and worm/helical gearing.

Motor and gear enclosures and special finishes are available for washdown, corrosive, or explosion-proof environments.

A variety of control options are available. A handwheel control is standard, with ERC (Electric Remote Control) and RAC (REEVES Automatic Controller) available options.

Both mechanical indicator handwheels and programmable electronic digital tachometers are available. When a digital indicator or ERC/RAC is installed it is NOT necessary to remove the tach pickup or any associated wiring during normal belt and bushing maintenance.

Mechanical speed stops may be set easily and precisely.

IMPORTANT REMINDERS

1. Always turn off power before installing unit or performing maintenance.

DANGER: Subsequent steps may require rotating parts and/or electrical circuits to be exposed. Stay clear if unit must be running or disconnect and lockout or tag power source if contact must be made. Failure to observe these precautions could result in severe bodily injury or loss of life.

2. Check your power supply and motor nameplate rating before making electrical connections.

DANGER: The user is responsible for conforming with the National Electrical Code and all other applicable local codes. Wiring practices, grounding, disconnects and overcurrent protection are of particular importance. Failure to observe these precautions could result in severe bodily injury or loss of life.

3. Extreme care must be used in removing spring cartridge assembly. Cartridge can separate resulting in uncontrolled release of spring. See instructions for removal and disposal of spring cartridge.

WARNING: Cartridge contains compressed spring. Make sure all personnel are clear of possible projection path of spring cartridge and spring, should sudden release occur. Failure to observe these precautions could result in severe bodily injury.

4. Never operate the ULTIMA without the cover in place.
5. DO NOT stand on or push on or place any object on the ULTIMA belt guard! It is a belt guard and NOT designed as a structural member.
6. Change speeds only while unit is running.

HANDLING INSTRUCTIONS

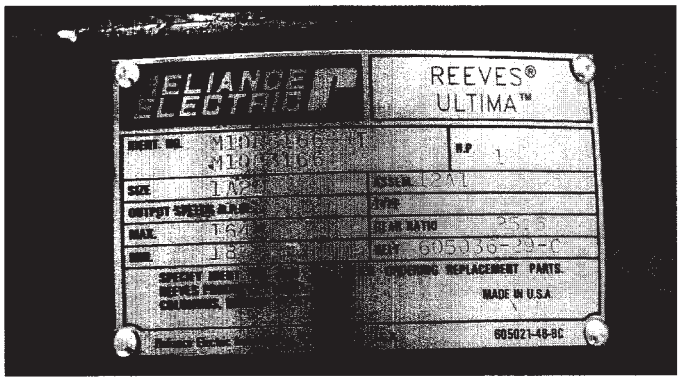
WARNING: Lift only in an approved manner. Failure to observe this precaution could result in bodily injury.

1. Lift the ULTIMA unit by placing slings around the motor, reducer to backplate adaptor and output shaft. J-hooks may be used in both clamp collar access holes located on either side of the backplate.
2. Never place sling around the cover (ABS plastic) or any part of the shifting mechanism.
3. Do not lift unit with driven equipment or other accessories installed.
4. Never position yourself or the drive where any unforeseen circumstance could cause injury to yourself or anyone else.

DRIVE IDENTIFICATION

When inquiring about or ordering replacement parts for a REEVES ULTIMA, always specify the drive ID number and all other nameplate information.

NOTE: If the nameplate is missing or unreadable, the unit's original ID number is stamped into a boss on the side of the backplate casting near the motor.



LONG-TERM STORAGE

General

Consult reducer instruction manual provided with the ULTIMA for general storage instructions and instructions specific to motors and gear reducers. Reference service bulletin E3614 for right angle drives and 499972 for parallel drives.

Preparation of Beltcase for Long-Term Storage

1. Where long-term storage is anticipated, the ULTIMA should be ordered with Chromalife discs.
2. For storage of all ULTIMA units, remove the variable speed belt and store in a relaxed condition. Recoat disc faces and other exposed metal surfaces with a corrosion-resistant coating.
3. Prepare motor and reducer per referenced instructions.
4. Tag unit to indicate status of unit.
5. Cover unit and store in a heated and dry (non condensing) area.

Return To Service

1. Disassemble ULTIMA, thoroughly clean all corrosion resistant coatings from disc faces and shafts. Inspect all parts for condition and freedom of movement.
2. Remove sliding discs, clean and relubricate bushings (silicone grease preferred) and reassemble.
3. Inspect belt for cracks. Reinstall belt.
4. Check reducer lubricant level and condition; replace as necessary.
5. After start-up, check bearing temperatures for indication of excessive heating due to lubricant contamination or oxidation.

NOTE: Rusted internal parts are not covered by warrantee.

INSTALLATION

DANGER: Subsequent steps may require rotating parts and/or electrical circuits to be exposed. Stay clear if unit must be running or disconnect and lockout or tag power source if contact must be made. Failure to observe these precautions could result in severe bodily injury or loss of life.

1. A rigid base is essential for mounting the ULTIMA unit.
2. Mount and fasten the unit into position so that the reducer output shaft, in coupled installations, is properly aligned with the driven device. Use shims, when necessary, to obtain proper alignment. Sheaves for chain or belt drives must be installed on the ULTIMA output shaft as close to the output cover as possible and must be accurately aligned with the driven sheave. All shafts must turn freely without binding when the ULTIMA is secured to the mounting.
3. Connect electrical power.

DANGER: The user is responsible for conforming with the National Electrical Code and all other applicable local codes. Wiring practices, grounding, disconnects and overcurrent protection are of particular importance. Failure to observe these precautions could result in severe bodily injury or loss of life.

4. REEVES ULTIMA units are set for a specified speed range and tested at the factory. Following proper electrical connections and lubrication (if required), the units are ready for immediate use.
5. NOTE: All ULTIMA adjustable speed drives are shipped with a corrosion-preventive compound applied to the disc faces. It is not necessary to remove this compound before operation, as it is worn off quickly. Once it is gone, normal operating temperatures prevent disc face corro-

INSTALLATION Cont'd.

sion. NOTE: If your drive is allowed to sit for extended periods of time in a condensing environment after the initial set-up period, it must be protected or purchased with the CHROMALIFE disc face treatment option. See RECOMMENDATIONS FOR LONG-TERM STORAGE. Rusted internal parts are not covered by warrantee.

OPERATION AND CARE

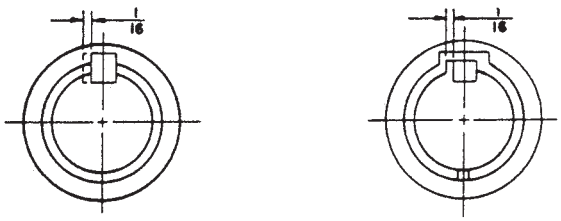
1. Under normal conditions, little periodic maintenance is required. See PREVENTIVE MAINTENANCE.
2. The belt contact surfaces should be kept clean and free from oil and grease.
3. When the REEVES ULTIMA is not to be operated for a period of 30 days or more, prepare the unit per RECOMMENDATIONS FOR LONG-TERM STORAGE.

PREVENTIVE MAINTENANCE

Under normal conditions the REEVES ULTIMA requires little maintenance. However, the following suggestions will keep the drive running at top efficiency and reduce unscheduled down time.

DANGER: Subsequent steps may require rotating parts and/or electrical circuits to be exposed. Stay clear if unit must be running or disconnect and lockout or tag power source if contact must be made. Failure to observe these precautions could result in severe bodily injury or loss of life.

1. Occasional visual inspections to check for hardware security, leakage, and general overall condition is good practice with any machine. In extremely dirty environments, heavy accumulations of dirt can cause overheating. An occasional washdown or wipe-off is good practice with any machine.
2. At least every 6 months (2000 hours running):
   a) Check the general running condition of the unit. Listen for unusual noise or vibration.
   b) Check reducer oil level and look for signs of leakage. Replace seals as required.
   c) Check the belt contact surfaces of the discs to see that they are clean and free from oil, grease or dirt.
   d) Check belt for signs of wear, such as frayed or torn edges and major cracks in the underside. Replace as required.
   e) The disc bushings require periodic replacement. Check the constant and variable speed sliding disc bushings and keys for signs of excessive wear. If rotational clearance between bushing keyway and key exceeds 1/16 inch (see Diagram 1), the key and bushings should be replaced. If any question exists on the condition of the bushings, replace them. Rotational clearance must be checked with the sliding disc located on the shaft in its normal operating location.
   f) If bushings are in good condition, relubricate with silicone grease (preferred) or clean ball bearing grease.



CONSTANT END VARIABLE END

DIAGRAM NO. 1

Size 3 Only

Lubricate sliding discs with 2 or 3 strokes of NLGI No. 1 grease through fittings 58 and 62 every 2 weeks for normal use (40-60 hours/week, dry, dust-free conditions). More frequently under severe use. Shift drive through range to distribute lubricant.

LUBRICATION INSTRUCTIONS

MASTER APG and MASTER XL Reducers

The MASTER APG and MASTER XL reducers are filled at the factory with Mobil SHC 600 series (634 or 629) oil to the correct level for the specified mounting position. The correct oil level is indicated by the red oil level plug. Changes in mounting position will require relocation of the oil level and vent plugs and may require either addition or removal of oil. See the Mounting Position Diagrams in MASTER APG Manual 499972 or MASTER XL Manual E3614 for correct locations. NOTE: Reducers are shipped with reducer vent hole plugged to prevent leakage in transit. This plug MUST be removed and replaced with supplied vent plug before operation.

The oil level should be checked before startup and frequently thereafter, preferably with the gearbox warm. Check by removing the red oil level plug. The oil level should be at the bottom edge of the threaded level plug hole. If the level is low, add oil slowly through one of the upper plug holes until oil starts to run out of the level hole. Replace all plugs securely.

LUBRICATION INSTRUCTIONS Cont'd.

Mobil SHC 600 series oils are suitable for use at all output speeds and in ambient temperatures from +10 to +110 degrees F. No initial oil change after break-in is needed. The initial factory fill is good for up to one year in normal industrial environments. Extremely hot, wet or dirty conditions may require more frequent changes. Consult Application Engineering for advice on unusual applications.

Bearings in some reducer mounting positions are above the oil level. These bearings are provided with a plug. They should be lubricated with a good grade of ball bearing grease when changing gear lubricant. Do not over lubricate.

*Special oil seals required below +10 degrees F.

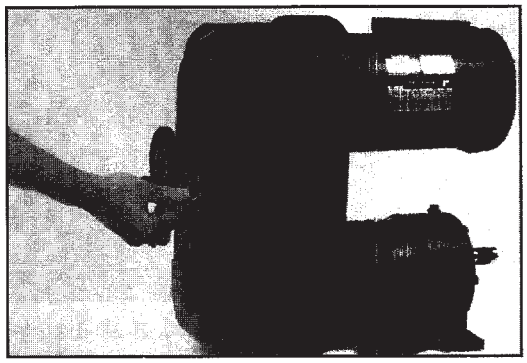
BELT AND CONSTANT DISC BUSHING REPLACEMENT

Tools Required: Screwdriver
Wood Handled Hammer or Stick

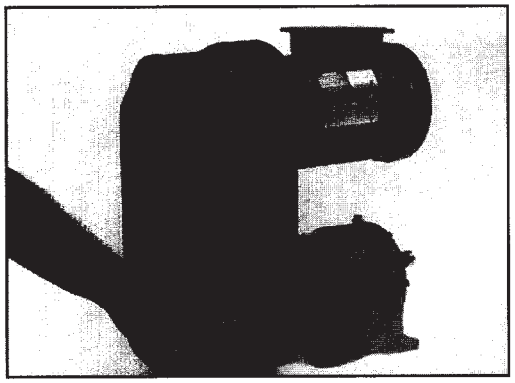
A. Belt Removal

1. Shift unit to high speed position, stop unit and lock out main drive motor.

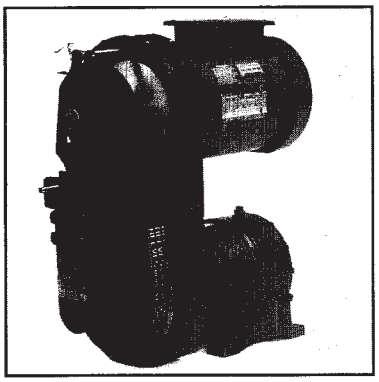
WARNING: To ensure that drive is not unexpectedly started, turn off and lock out or tag power source before proceeding. Failure to observe these precautions could result in bodily injury.



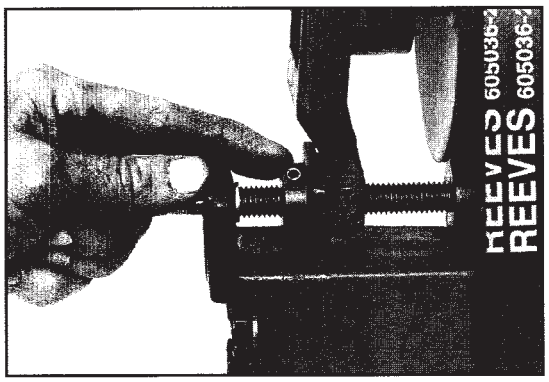
2. Pull handwheel detent pin 271. Remove handwheel 12.



3. Loosen quarter-turn fasteners 274 on cover lip.



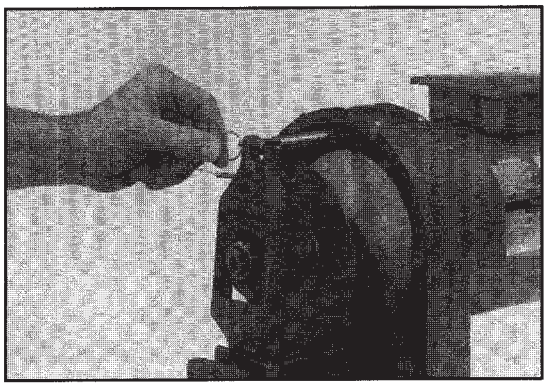
4. Remove cover 26.

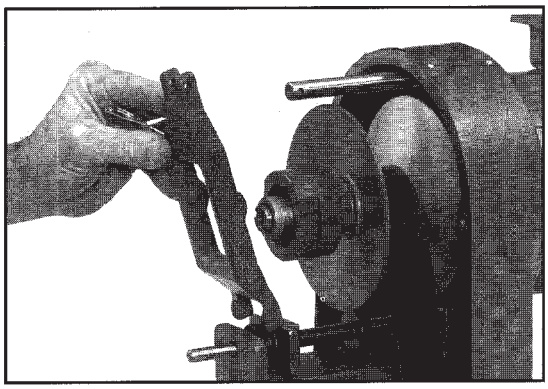


5. Turn shifting screw 15 a few turns clockwise to remove tension from shifting yoke.

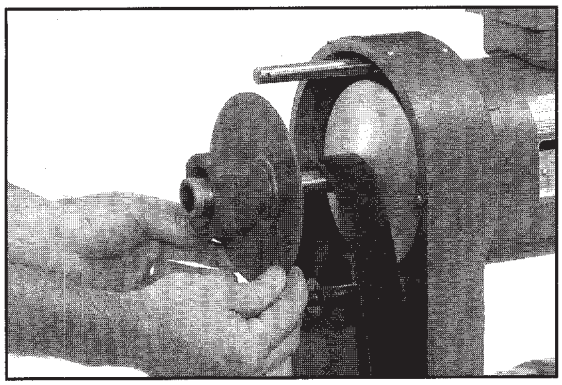
Parts List Drawings
Pages 24-33

BELT AND CONSTANT DISC BUSHING REPLACEMENT Cont'd.

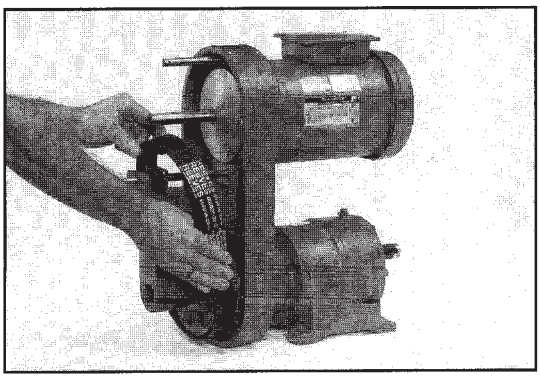




6. Pull detent pin 271 from pivot end of shifting yoke 23. Remove shifting yoke.



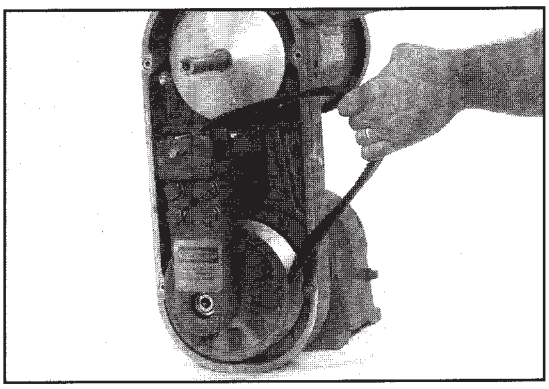
7. Remove sliding disc 50 from fixed constant disc hub 53.



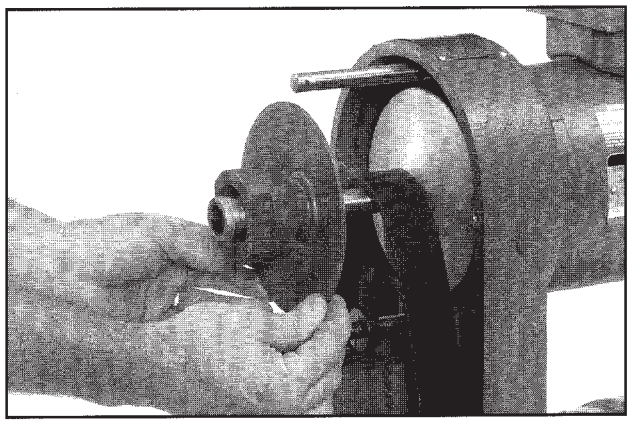
8. Loop belt 52 off fixed constant disc hub. Roll belt out from between variable discs 65 and 66.

B. Belt Installation

1. Loop belt 52 between variable discs 65 and 66 and around bearing support/control bracket. Position it between variable discs.



2. Pull belt in between variable discs far enough so that it may be easily looped over fixed constant disc hub 53. It may be helpful to slide a wooden hammer handle between the discs and spread them by levering against the underside of the variable shaft bearing support bracket.



3. Reinstall sliding constant disc 50.

Parts List Drawings
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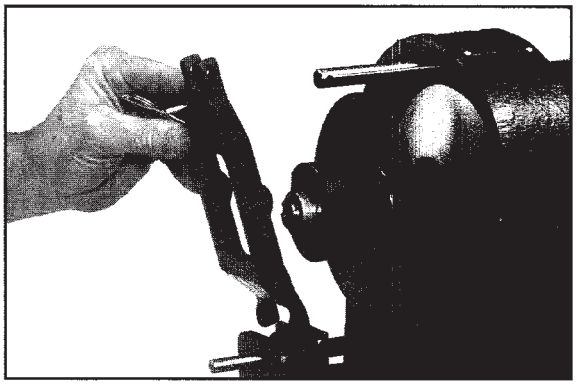
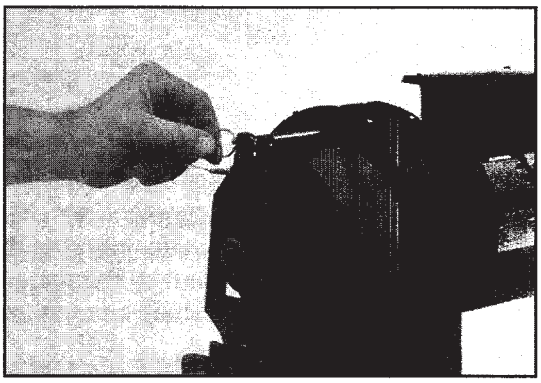
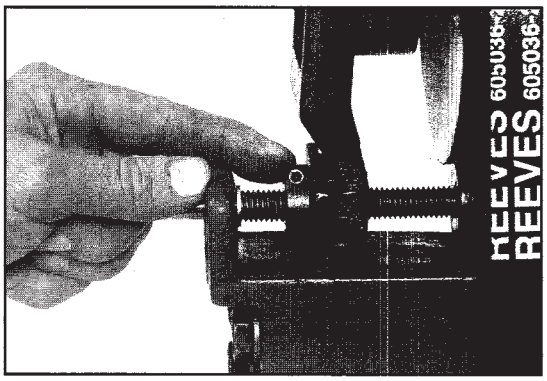
BELT AND CONSTANT DISC BUSHING REPLACEMENT Cont'd.

4. Turn shifting screw 15 toward low speed (clockwise).

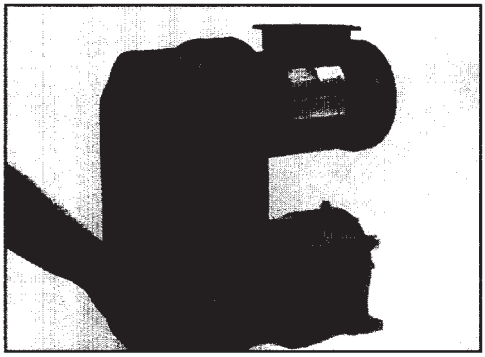




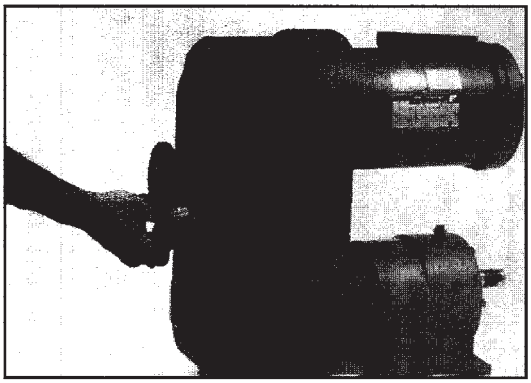
5. Rotate thrust bearing housing 42 so shifting yoke 23 rectangular opening will pass over flats on housing sides. Raised, rounded areas along sides of shifting yoke 23 must face motor. Insert wide spaced ears on shifting yoke 23 over (straddle) shifting nut 157. Align holes in narrow end of shifting yoke 23 over support/pivot rod 270. Insert detent pin 271 through shifting yoke 23 and support/pivot rod 270.



6. Turn shifting screw 15 gently counterclockwise to remove slack between shifting nut 157, thrust bearing housing 42 and shifting yoke 23.



7. Reinstall cover 26. Secure with quarter-turn fasteners 274.

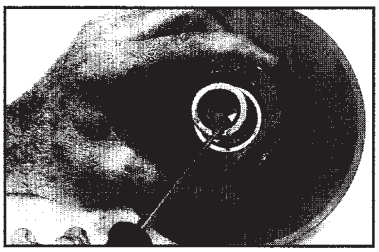


8. Install handwheel 12, secure with detent pin 271.

C. Constant Disc Bushing Replacement.

Size 3 Only: Uses relubricable disc assemblies instead of replaceable bushings. See PREVENTIVE MAINTENANCE for periodic lubrication requirements.

1. Remove constant sliding disc 50 as in Section A.



2. Remove key 51 from inside sliding constant disc 50.

Parts List Drawings
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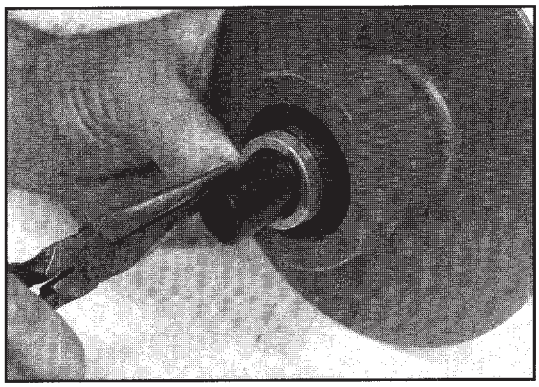
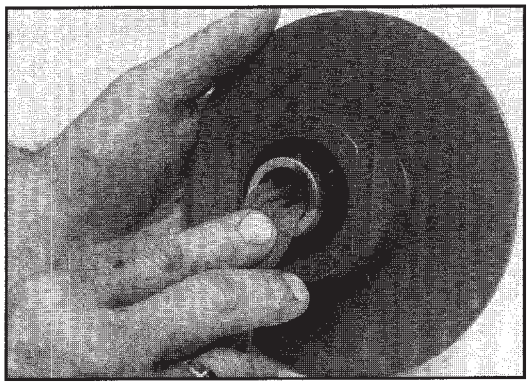
BELT AND CONSTANT DISC BUSHING REPLACEMENT Cont'd.



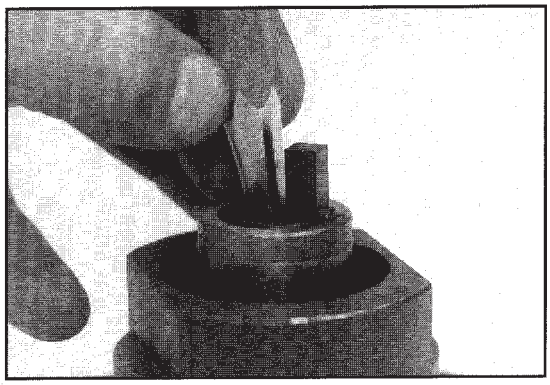
3. Collapse no-lube bushings 251 and remove from disc bore.



4. Clean disc bore.

5. Roll new bushings 251 slightly, install in disc bore, one from each end, flanged end first. Seat flanges in grooves in disc bore.

6. Rotate bushings 251 to clear internal keyway.



7. Slide key 51 into keyway, insert tang into slot in disc hub.

8. Grease bushings 251, fill cavity between bushings with supplied grease.

9. Slide disc 50 back onto fixed disc hub 53.

CONSTANT DISC ASSEMBLY REPLACEMENT

Tools Required: **Screwdriver**
Wooden Handled Hammer or Stick
Torx T30 (size 1, 2) Wrench
Torque Wrench
Straight Edge
Dial Indicator

Note: Size 3 ULTIMA units use a straight-bored hub with key and two radial setscrew instead of a clamp collar to mount the fixed constant disc (53) to the motor shaft. For disc removal, loosen the setscrews through access holes (128). When reinstalling fixed constant disc (53), be sure to include spacer in bottom of disc bore. Finally, tighten set-screws firmly. Insure disc hub runout is less than .004 inch.

I. Constant Disc Assembly Removal

A. Remove belt 52 and sliding constant disc 50 per BELT AND/OR CONSTANT DISC BUSHING RE-PLACEMENT

Parts List Drawings
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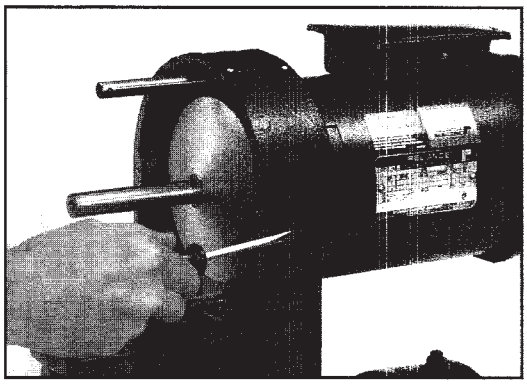
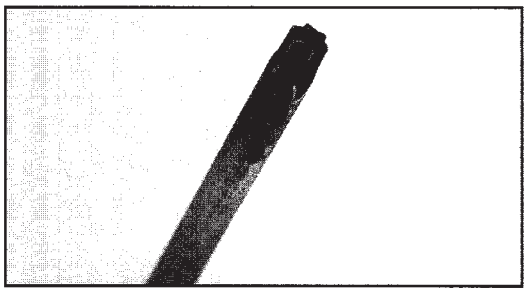
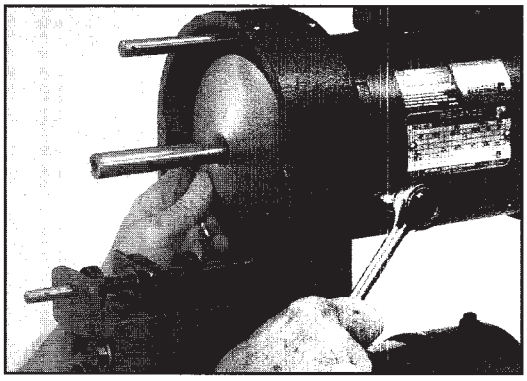
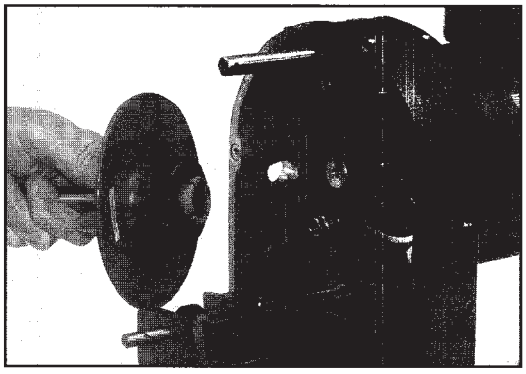
CONSTANT DISC ASSEMBLY REPLACEMENT Cont'd.







B. Remove access buttons 128 on sides of backplate 267. Rotate fixed constant disc 53 until clamp collar 252 Torx head clamp screw is visible through access hole. Insert a Torx size T-30 wrench (available at most automotive and industrial supply houses) and loosen the clamp collar screw. *A suitable impact-grade wrench is Apex 49-C-TX-30.



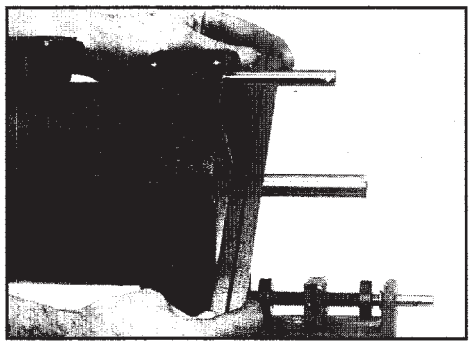
C. Pull the fixed disc 53 off the motor shaft.

*Torx wrench also available from REEVES Renewal Parts. Refer to part number 41511415A for T-30.

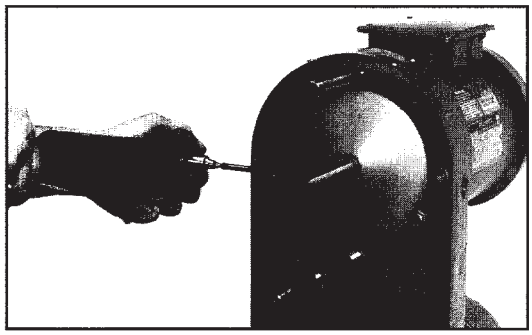
II. Constant Disc Assembly Replacement

A. Before installing fixed disc 53, ensure that motor shaft is free from burrs and corrosion. Check motor shaft runout; not to exceed .002 inch TIR.

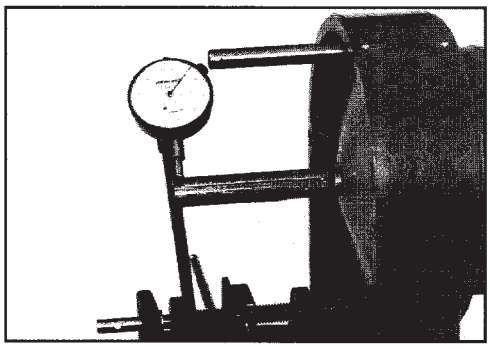
NOTE: No motor shaft key or disc plug is required.



B. Slide fixed disc 53 hub onto motor shaft. Lay a steel straightedge across the backplate 267 face and adjust the axial position of the fixed constant disc 53 until the flat portion on the disc face next to the hub is flush with the straightedge (and therefore, flush with the face of the backplate).



C. Tighten the Torx head screw in the clamp collar 252 to 200 inch-pounds (size 1 or 2), with a torque wrench.



D. Place a dial indicator ⅛ inch from the end of the fixed disc hub 53 and ensure that TIR runout does not exceed .004 inch. If excess runout is observed, loosen the clamp collar 252, rotate the disc 90 degrees relative to the motor shaft, reset axial position, retighten the clamp collar 252 and recheck the runout.

E. Reassemble drive per BELT AND/OR CONSTANT DISC BUSHING REPLACEMENT instructions.

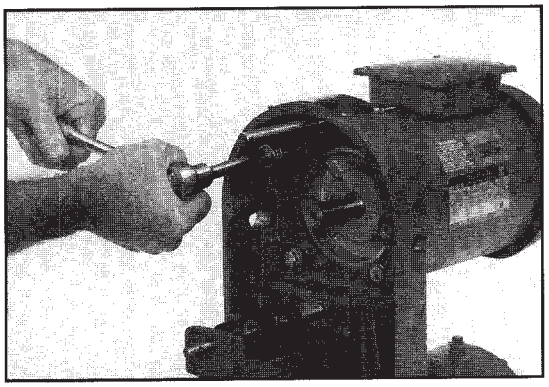
MOTOR REPLACEMENT

A. Disconnect and lock out/tag electrical service

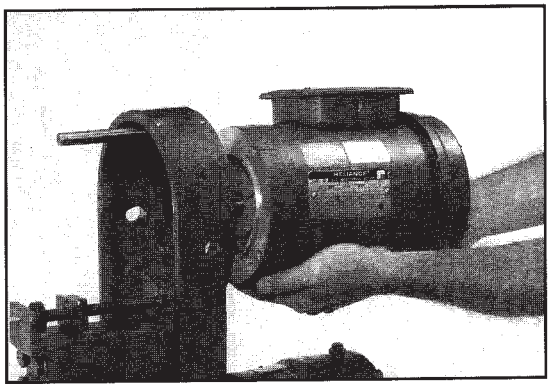
> **DANGER:** Subsequent steps may require rotating parts and/or electrical circuits to be exposed. Stay clear if unit must be running or disconnect and lockout or tag power source if contact must be made. Failure to observe these precautions could result in severe bodily injury or loss of life.

B. Remove constant disc assembly per REPLACEMENT OF CONSTANT DISC ASSEMBLY

C. Remove electrical power wiring from motor.



D. Remove 4 hex head bolts securing motor 1 to backplate 267.

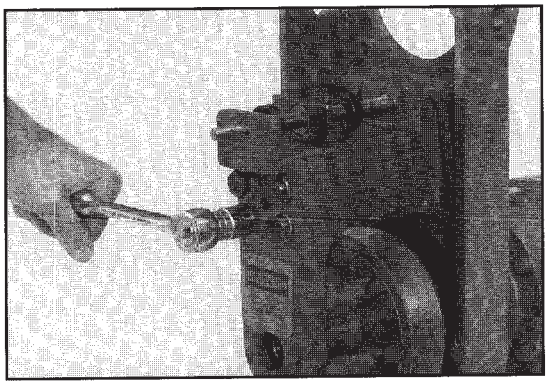


E. To replace, reverse removal procedure.

VARIABLE DISC OR BUSHING REPLACEMENT

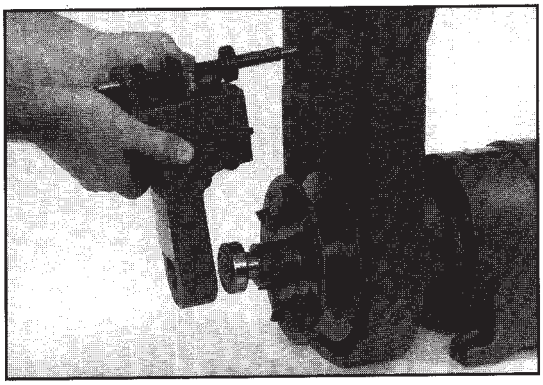
Tools Required: Socket and Driver
Bearing Puller
Soft Hammer
Torque Wrench

A. Remove Belt 52 per BELT AND CONSTANT DISC BUSHING REPLACEMENT.



B. Remove Variable Shaft Bearing Support Bracket

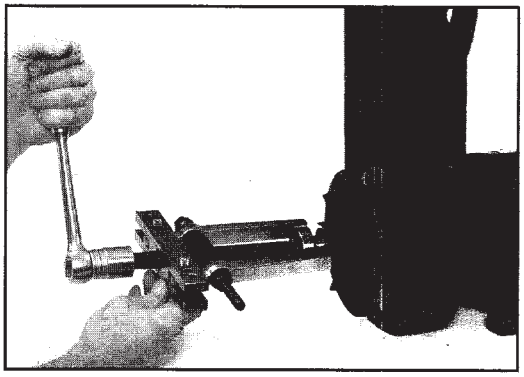
1. Remove hex head cap screws 280 which secure front half of bracket to backbone.



2. Pull entire bracket and shifting screw assembly 15. Tap gently on alternate sides of bracket to pull bracket straight off dowel pins and variable shaft bearing 78. Do not bend or damage shifting screw.

Parts List Drawings
Pages 24-33

VARIABLE DISC OR VARIABLE DISC BUSHING REPLACEMENT Cont'd

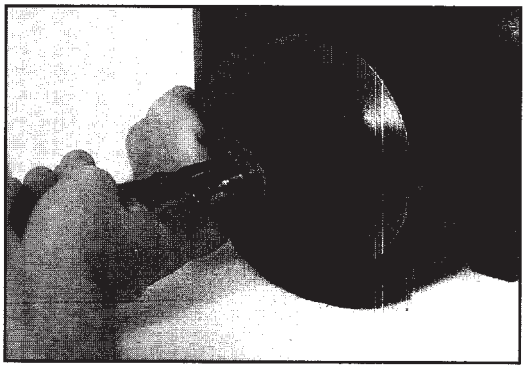


C. Remove Variable Discs

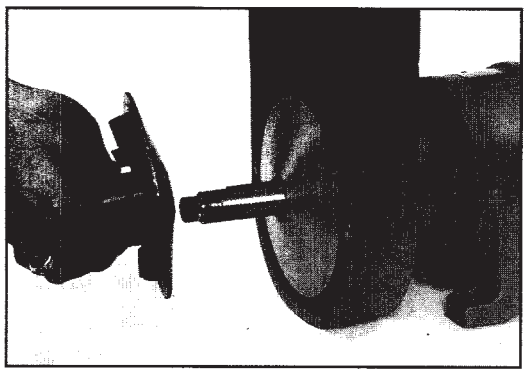
1. Use bearing puller to remove ball bearing 78 on end of variable shaft 60. Do not put radial load on this shaft as it may damage the pinion and/or bearing of the other end.

2. Verify integrity of spring cartridge 154.

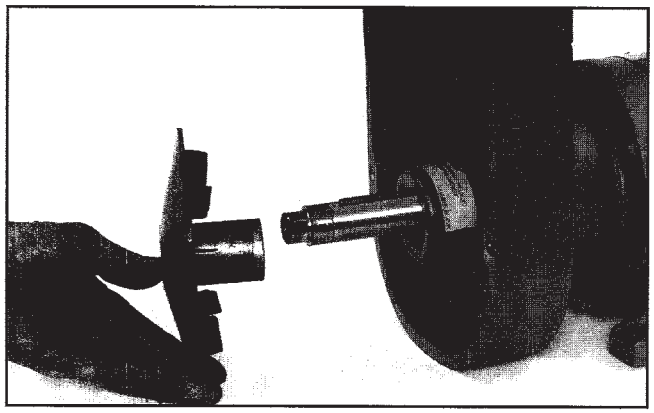
WARNING: Extreme care must be used in removing the spring cartridge assembly. Inspect for clearance between spring cartridge and retaining ring. If there is no clearance, do not proceed. The spring cartridge may be ruptured. Do not attempt to remove the retaining ring. Reassemble and send to Reliance Service Center for repair. Failure to observe these precautions could result in bodily injury.

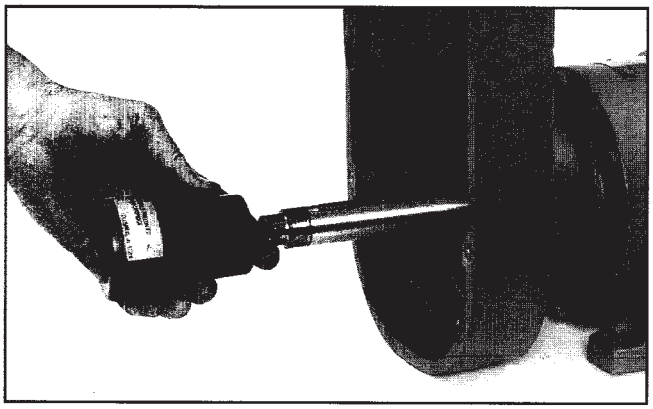


3. Compress fixed variable disc 65 toward backplate. Remove retaining ring 73 near end of variable shaft.



4. Remove fixed disc 65.



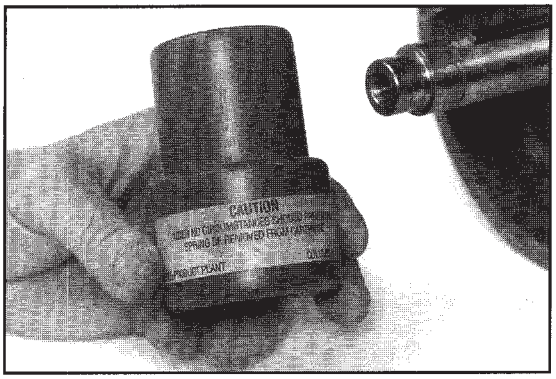


5. Remove sliding variable disc 66 and spring cartridge assembly 154.

WARNING: Spring cartridge contains compressed spring. Make sure all personnel are clear of projection of spring cartridge and spring, should sudden release occur. Failure to observe these precautions could result in bodily injury.

Parts List Drawings
Pages 24-33

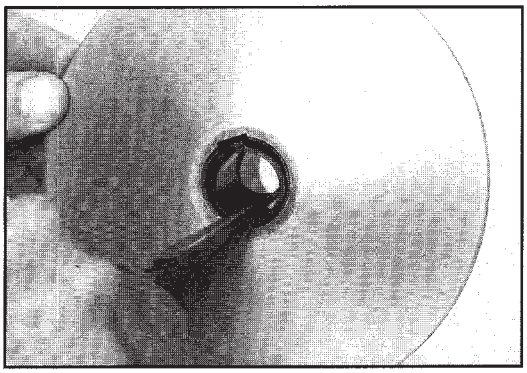
VARIABLE DISC OR VARIABLE DISC BUSHING REPLACEMENT Cont'd



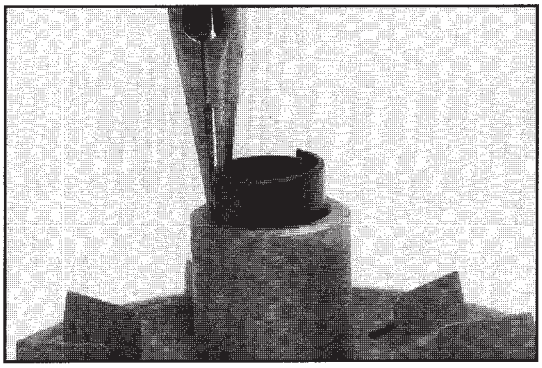
6. Inspect spring cartridge, replace as necessary. See WARNING under SPRING CARTRIDGE INSPECTION AND DISPOSAL.

D. Replace Sliding Variable Disc Bushings

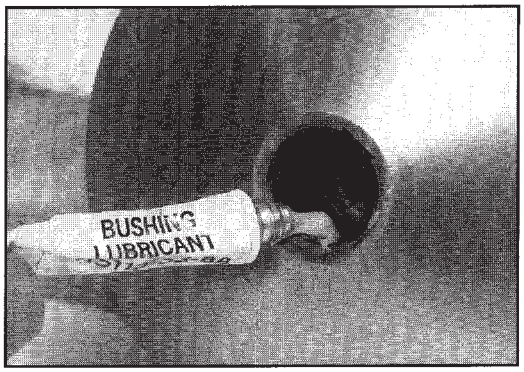
Size 3 Only: Uses relubricable disc assemblies instead of replaceable bushings. See PREVENTIVE MAINTNANCE for periodic lubrication requirements.



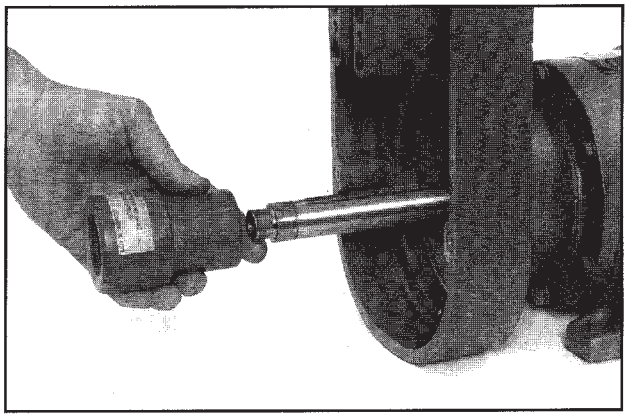
1. Compress/roll old bushings 253 and remove from disc 66 bore.
2. Clean disc bore.



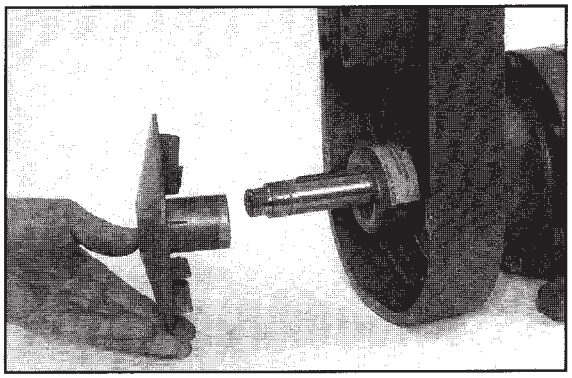
3. Roll new bushings slightly and insert into disc bore, one from each end, flange end first. Ensure flanges seat in grooves in disc bore.



4. Grease bushings 253 and fill cavity between bushings with supplied grease or ball bearing grease.



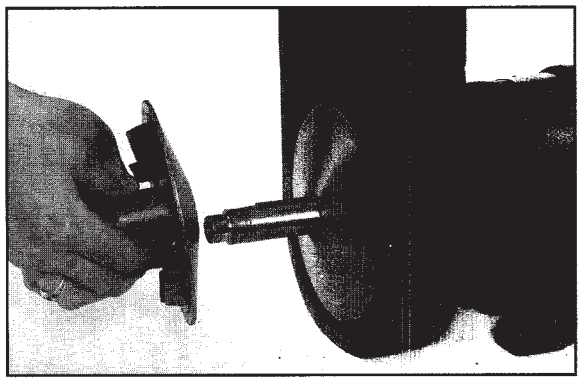
5. Slide spring cartridge 154 onto variable shaft 60, smaller diameter first.



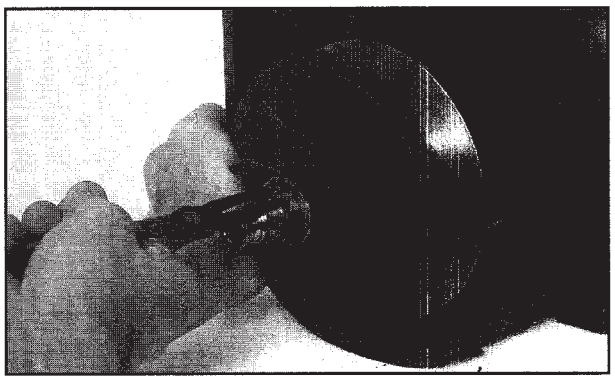
6. Slide variable sliding disc 66 onto variable shaft 60 and into bore of spring cartridge 154.

Parts List Drawings
Pages 24-33

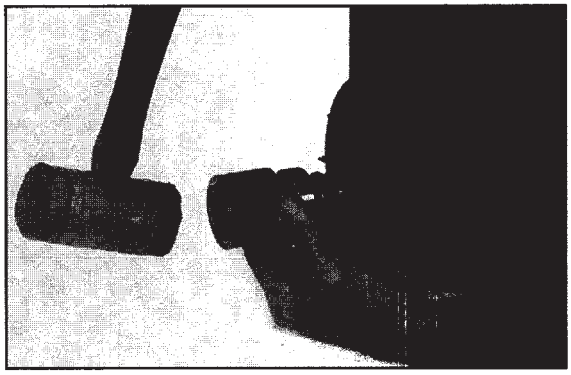
VARIABLE DISC OR VARIABLE DISC BUSHING REPLACEMENT Cont'd



7. Slide fixed disc 65 onto variable shaft 60.



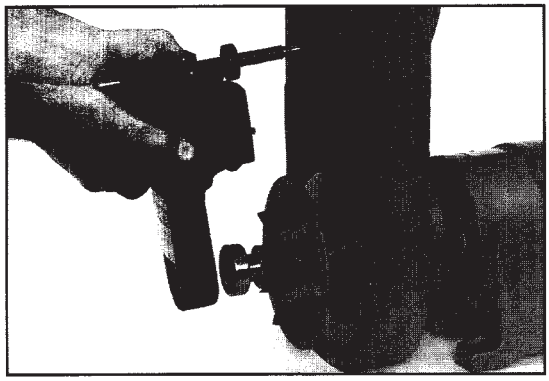
8. Compress disc toward reducer, install retaining ring 73 on variable shaft 60.



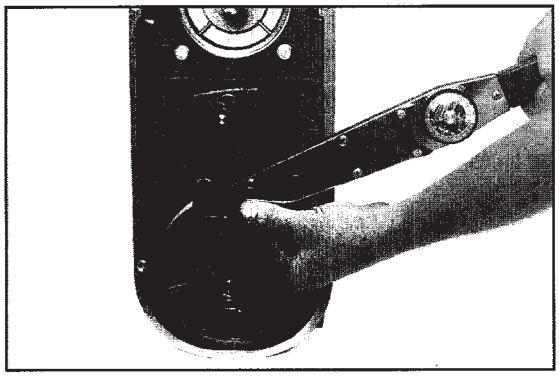
9. Install new ball bearing 78 on variable shaft 60. Press on inner race only while supporting opposite end of variable shaft to prevent damage to opposite bearing.

E. Reinstall bearing/shifter support bracket

1. If shifting screw 15 (with stops 27 and shifting nut 157) has been removed, reinstall it complete by sliding shifting stub (long end) through bushing 269 in bracket. If shifting nut was removed, it must be reinstalled with cut away side away from handwheel. Reinsall anti-drift parts (items 13, 14, and 284).
2. Start variable shaft bearing 78 in bearing bore and end of shifting screw into bushing 269 in backplate.



3. Position bracket over dowel pins in backplate 267, gently push it into place. Don't bend the shifting screw.



4. Reinstall hex head cap screws 280 to hold bracket to backplate 267. Torque to 35-45 ft-lbs.
5. Reinstall belt 52 per BELT REPLACEMENT instructions.

Parts List Drawings
Pages 24-33

SPRING CARTRIDGE STORAGE AND DISPOSAL

WARNING: Cartridge contains spring under compression. Make sure personnel are clear of projection path of spring cartridge and spring, should sudden release occur. Failure to observe these precautions could result in bodily injury.

STORAGE: Store with some method of axial retention to prevent uncontrolled expansion.

DISPOSAL: Preferred method is to dispose of spring in free (uncompressed) state. However, do not attempt to remove compressed spring from cartridge without some method of controlling spring expansion, such as a piloted press fixture or long (4 times cartridge length minimum) threaded rod with oversize end plates and nuts. Use this fixture to carefully compress cartridge, then remove steel can and extend spring to its free length.

Alternatively, dispose of the cartridge with chain or threaded rod fastened through center hole to prevent uncontrolled expansion.

VARIABLE SHAFT AND SEAL REPLACEMENT: APG REDUCERS

NOTE: APG pinions are not designed for field replacement. The bearing and seal seats are ground to size after the pinion has been heat-shrunk into the variable shaft in order to ensure concentricity and quiet running. Contact Reliance Renewal Parts for complete variable shaft and pinion assemblies.

I. Variable Shaft Removal

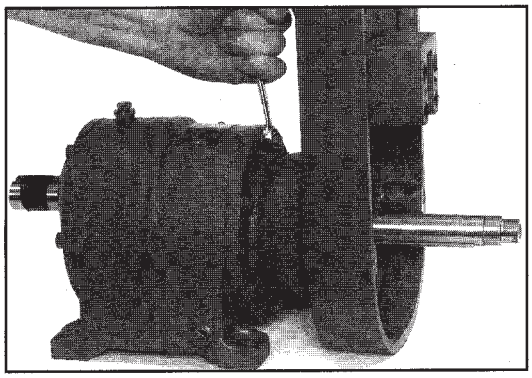
A. Disconnect and lock out/tag electrical service.

WARNING: To ensure that the drive is not unexpectedly started, turn off and lockout or tag power source before proceeding. Failure to observe these precautions could result in severe bodily injury.

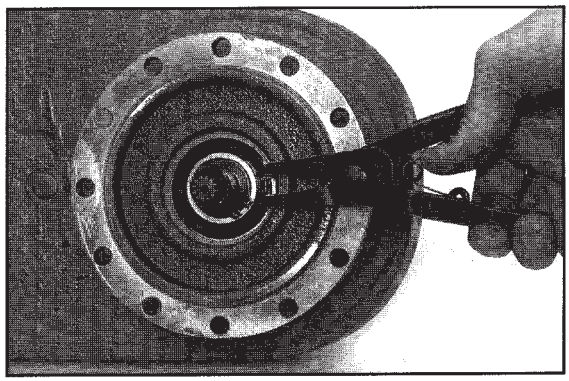
B. Remove belt 52, variable discs 65 and 66 and spring cartridge 154 per VARIABLE DISC OR VS BUSHING REPLACEMENT. Remove retaining ring 70.

C. Drain oil from APG reducer.

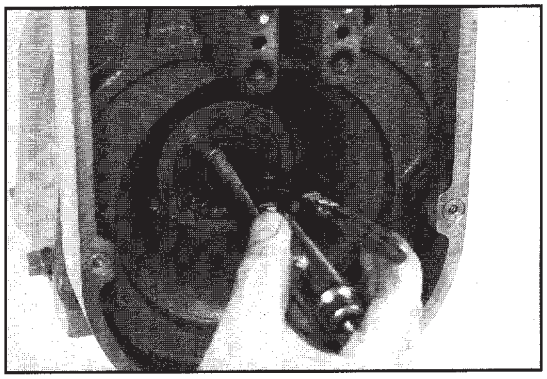
D. Disconnect and lock out or tag electrical power to unit.



E. Separate backplate 267 from APG reducer by removing 6 bolts securing integral backplate 267 flange to reducer face.



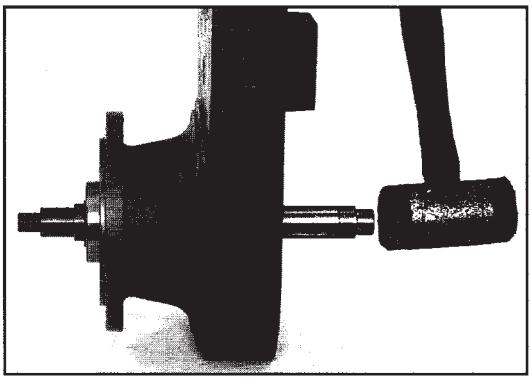
F. Remove retaining ring 127 from the pinion side of the backplate 267 output flange.



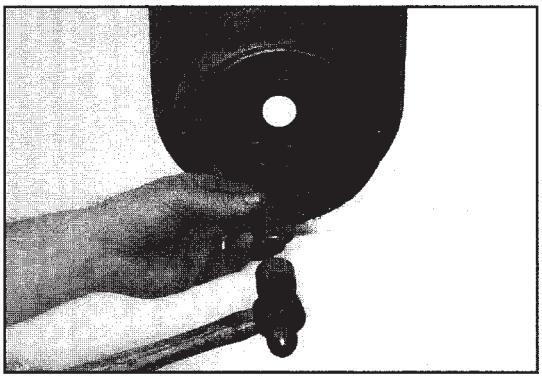
G. Remove retaining ring 70 from variable shaft 60.

Parts List Drawings
Pages 24-33

VARIABLE SHAFT AND SEAL REPLACEMENT: APG REDUCERS

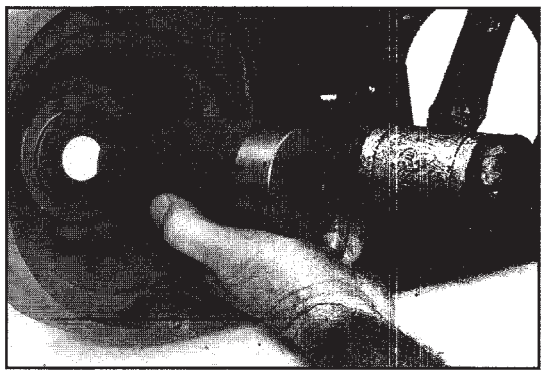


H. Push variable shaft 60 and bearing 80 out of reducer side of backplate 267 flange. Remove entire shaft and bearing from backplate 267. NOTE: This will probably damage reducer input seal 172, which must be replaced.



I. Tap old seal 172 out of backplate 267 flange from outside in.

II. Variable Shaft Installation



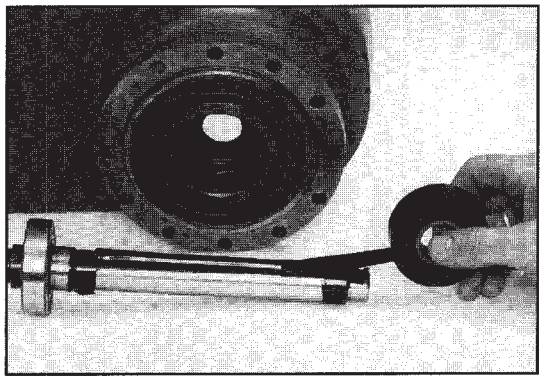
A. Install new seal 172 into bore in backplate 267 flange from inside case. Install with open side of seal toward the reducer. **Press the seal in until the face of the seal is flush to 1/16 inch below the mouth of the bore.** Ensure that the seal lip is beyond the end of the keyway in shaft 60, but do not bottom the seal in the bore as the lip may be damaged by the tangs on retaining ring 126.

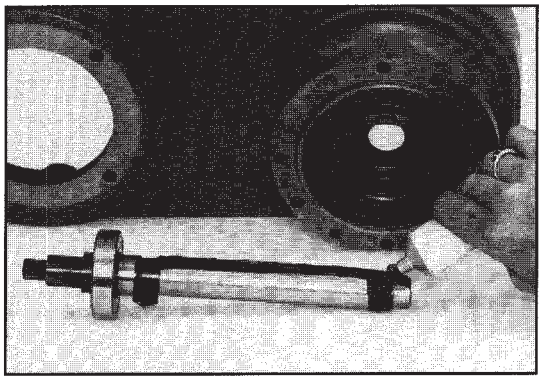
B. Replace bearing 80 on variable shaft and pinion assembly. If pinion diameter is smaller than bore of bearing, remove retaining ring 126 closest to pinion and pull bearing off over pinion. If pinion is larger than bearing bore, remove retaining rings 126 and 281 on disc side of bearing. Then press bearing off toward disc end of variable shaft. It is not necessary to remove the key 61 to replace bearing 80. Use extreme care not to damage the pinion!

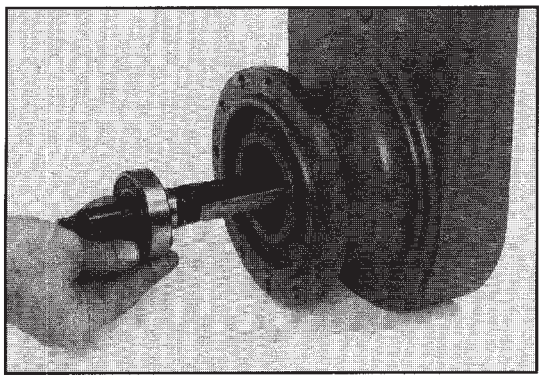
Press new bearing into place and install retaining rings 126 and 281 as required.

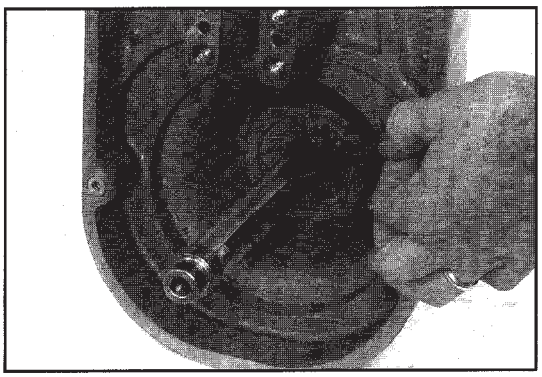
Parts List Drawings
Pages 24-33

VARIABLE SHAFT AND SEAL REPLACEMENT: APG REDUCERS Cont'd.

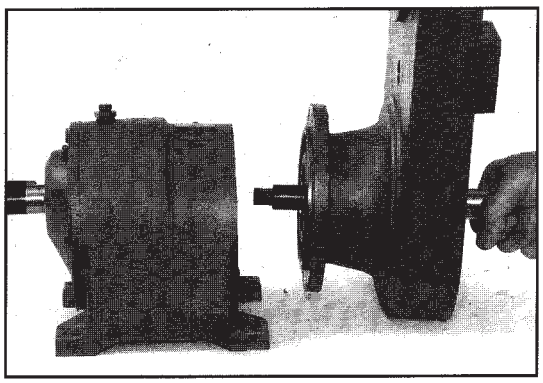


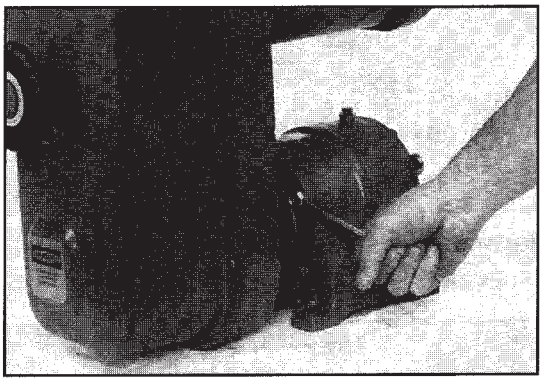






C. Note that the ID of the seal is approximately the same size as the shaft plus key. DRAGGING THE SEAL LIP OVER THE KEY WILL DAMAGE THE SEAL AND CAUSE LEAKAGE. To prevent seal damage, clean the variable shaft 60 and apply a strip of clean plastic electrical tape axially along the variable shaft, centered over the key 61, starting just before the seal step. Wrap the tape over the end of the variable shaft 60, then continue back along the opposite side of the shaft to the seal step. Also tape over the variable shaft bearing shoulder and retaining ring groove. This will protect the seal lip from the key, the ring grooves and shaft shoulders. Wrap another strip of tape around the leading edge of the seal step and extending back onto the step only 1/16- 1/8 inch. Oil the shaft (over the tape) lightly, then CAREFULLY insert variable shaft and pinion assembly through seal 172 from the reducer side until bearing 80 seats in bore in backplate 267. Rotate shaft 60 as seal 172 engages step. Inspect seal to make sure trapped air has not rolled seal lip inside out! Install retaining ring 127. Remove the tape and wipe the shaft clean.





D. Carefully slide pinion & backplate into reducer. Use care not to damage gear teeth. Apply sealing compound or RTV to the APG flange. APG 4D and 5D only — be sure to install shield 285.

E. Reattach backplate 267 to APG reducer with 6 bolts.

F. Carefully reassemble spring cartridge 154, variable discs 65 and 66 and belt 52 per VARIABLE DISC OR VS BUSHING REPLACEMENT.

G. Refill reducer with proper type and quantity of lubricant.

Parts List Drawings
Pages 24-33

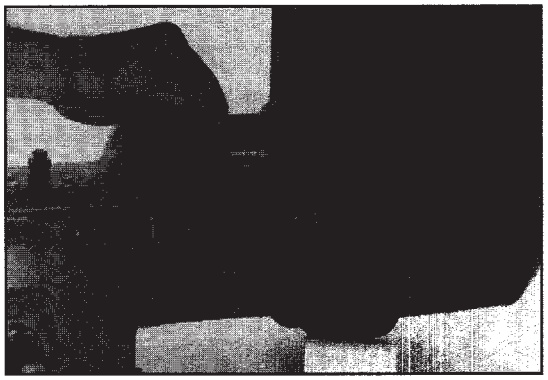
VARIABLE SHAFT REPLACEMENT: MASTER XL RIGHT ANGLE REDUCERS

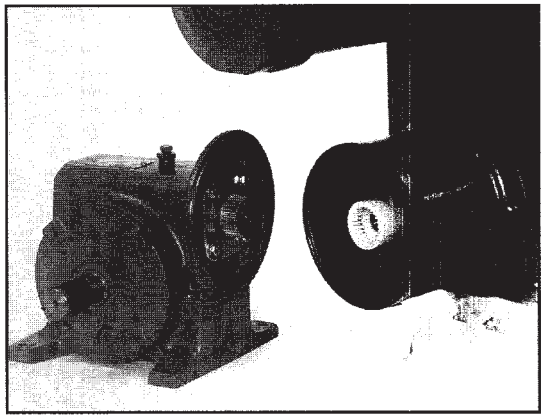
I. Variable Shaft Removal

A. Disconnect and lock out/tag electrical service.

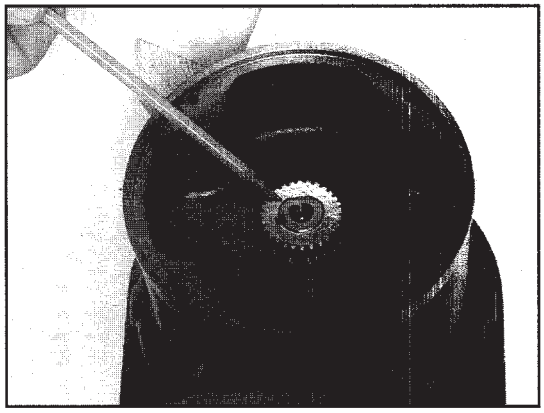
WARNING: To ensure that drive is not unexpectedly started, turn off and lockout or tag power source before proceeding. Failure to observe these precautions could result in severe bodily injury.

B. Remove electrical power wiring to motor.

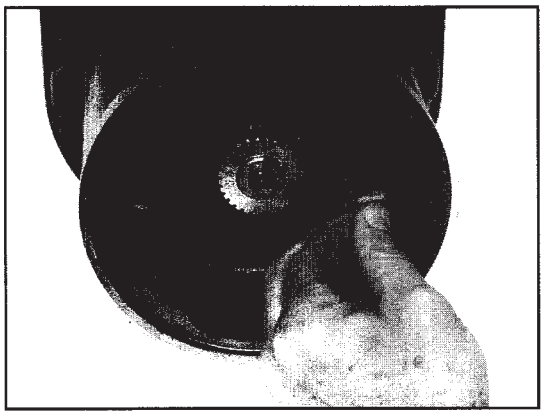




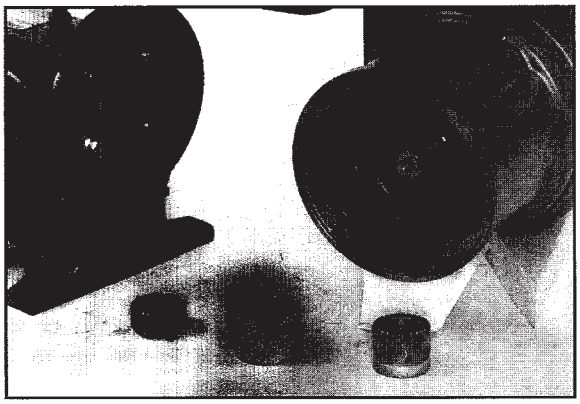
C. Separate backplate 267 from reducer at reducer flange. It is not necessary to drain the reducer.



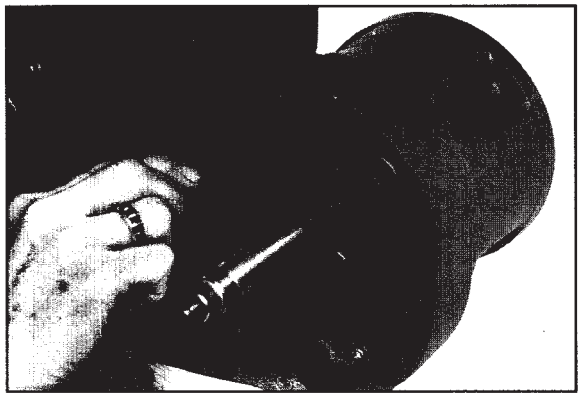
D. Mark or otherwise note position of coupling half 222 on MOTO DRIVE variable shaft 60 relative to adapter 142.



E. Remove coupling element and coupling half from MOTO DRIVE variable shaft stub.



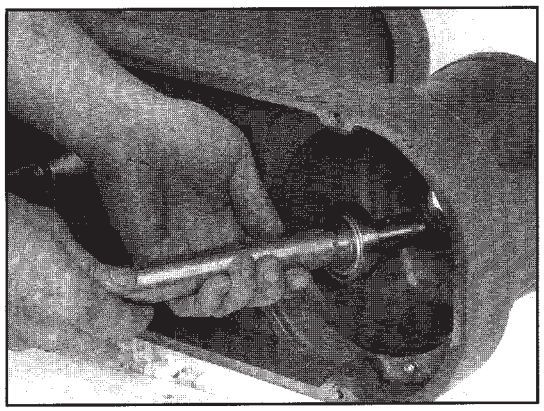
F. Remove belt 52, variable discs 65 and 66 and spring cartridge assembly 154 per VARIABLE DISC OR VARIABLE SHAFT BUSHING REPLACEMENT.



G. Remove retaining ring 127 from adaptor 142 bore (access from inside backplate 267. Adaptor 142 between backplate 267 and reducer may be removed (bolts from inside backplate 267) if desired to facilitate ring 127 removal.

Parts List Drawings
Pages 24-33

VARIABLE SHAFT REPLACEMENT: MASTER XL RIGHT ANGLE REDUCERS Cont'd.

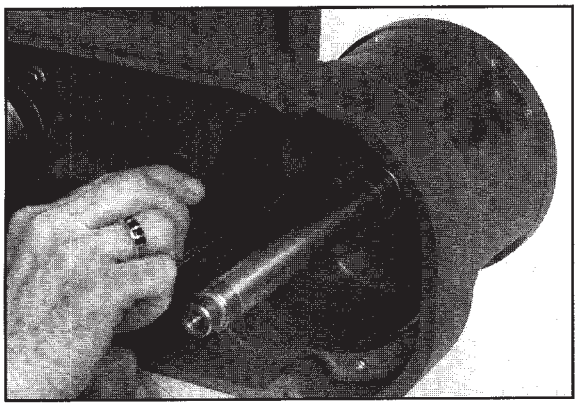


H. Pull variable shaft 60 and bearing 80 out of adaptor 142.

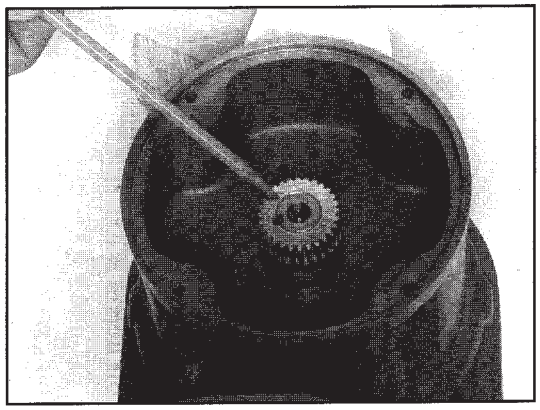
II. Variable Shaft Installation

A. To replace bearing 80, remove retaining ring 126 and press bearing 80 off variable shaft.

B. Press new bearing 80 in place against ring 126, then reinstall ring 126.



C. Insert variable shaft 60 and bearing 80 into bore in adapter 142. Install ring 127.



D. Install coupling half 222 on vari shaft. Reposition as noted in step D on page 16; tighten setscrew.

E. Slide coupling element onto coupling half. Mate adapter 142 to reducer flange while rotating vari shaft to ensure proper engagement of coupling flanges into element. Replace bolts.

F. If adapter 142 was removed from backplate 267, reattach it.

G. Reassemble unit per VARIABLE DISC OR VARIABLE SHAFT BUSHING REPLACEMENT.

Parts List Drawings
Pages 24-33

VARIABLE SHAFT REPLACEMENT: NO REDUCER OR C-FACE OUTPUT

I. Variable Shaft Removal

A. Disconnect and lock out/tag electrical service.

WARNING: To ensure that drive is not unexpectedly started, turn off and lock out or tag power source before proceeding. Failure to observe these precautions could result in bodily injury.

B. Disconnect output shaft from driven load.

C. Remove belt 52, variable discs 65 and 66 and spring cartridge assembly 154 per VARIABLE DISC OR VARIABLE SHAFT BUSHING REPLACEMENT. Remove key from output shaft extension.

D. Remove retaining ring 127.

E. Pull entire variable shaft straight out of bearing plate 77 (165 for C-Face).

F. To replace bearing 78, remove retaining ring 126, then press old bearing off shaft end.

VARIABLE SHAFT REPLACEMENT: NO REDUCER (Cont'd.)

II. Variable Shaft Installation

A. Press new bearing in place, then reinstall retaining ring 126.

B. Replace seal 172 from outside bearing plate if necessary.

C. Carefully insert variable shaft extension (without key 63) through seal, then slide bearing 78 into bore in bearing plate.

D. Install retaining ring 127.

E. Reassemble discs and support bracket per VARIABLE DISC OR VARIABLE SHAFT BUSHING REPLACEMENT.

CHANGING BELTCASE POSITION

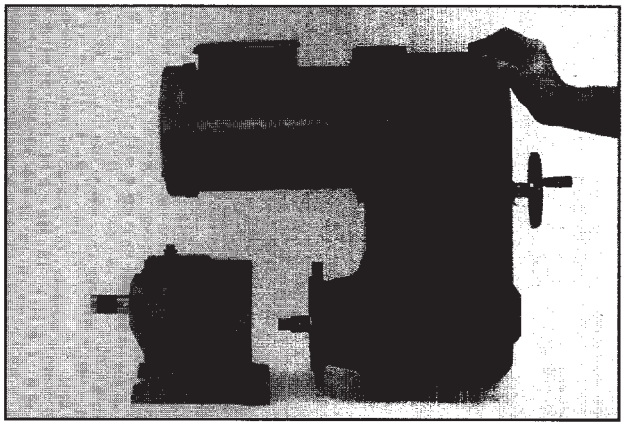
NOTE: Do not change reducer mounting position. CONSULT FACTORY.

Disconnect and lock out/tag electrical service.

> **WARNING:** To ensure that drive is not unexpectedly started, turn off and lock out or tag power source before proceeding. Failure to observe these precautions could result in bodily injury.

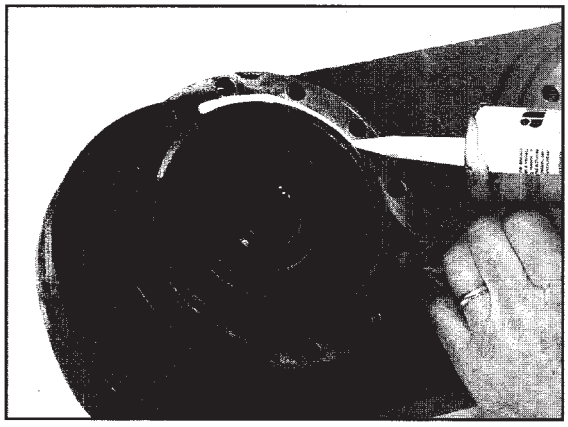
APG Equipped ULTIMA:

1. Drain oil out of the APG reducer. See included APG service manual 499972.
2. Remove 6 bolts securing integral beltcase flange of the APG reducer.



3. Carefully remove ULTIMA beltcase from reducer. Pull it straight out of the reducer to prevent damage to the APG input pinion, which is an integral part of the ULTIMA output shaft (60).

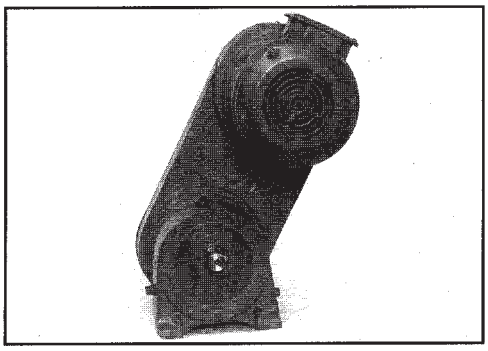
4. Remove traces of old gasket compound from mating faces of ULTIMA output flange and APG case face.



5. Carefully apply a bead of RTV or other gasket forming compound to one of the mating flanges. APG 4D and 5D only: be sure to include shield 285.

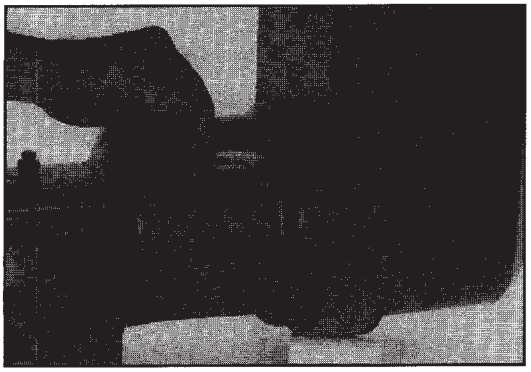
Parts List Drawings
Pages 24-33

CHANGING BELTCASE POSITION (Cont'd.)

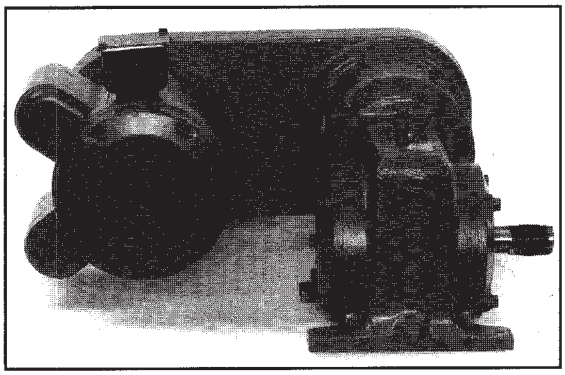


6. Align the beltcase to desired 30 degree increment, then slide the ULTIMA case straight into the APG case. USE CARE NOT TO NICK OR DAMAGE THE PINION AND GEAR!
7. Mate the tenons, align the bolt holes and reinstall bolts. Torque per recommendations in APG Manual.
8. Refill the APG with the proper quantity of approved lubricant.

XL Right Angle Equipped ULTIMA



1. Remove the 4 bolts securing the ULTIMA adapter flange to the XL reducer input flange.



2. Do not remove the ULTIMA from the reducer. Rotate the backplate to the desired 90 degree increment, align the bolt holes and reinstall the bolts.

No Reducer ULTIMA

1. Remove variable shaft discs (65, 66) and spring can assembly (154) per VARIABLE DISC OR BUSHING REPLACEMENT.
2. Remove 4 bolts securing backplate (267) to support case from inside ULTIMA backplate.
3. Rotate backplate around reducer tenon to desired location (90 degree increments).
4. Reinstall and tighten 4 bolts.
5. Reassemble drive per VARIABLE DISC OR BUSHING REPLACEMENT.

CHANGING C-FACE BELTCASE AND FOOT POSITION

The NEMA C-FACE output flange ULTIMA is supplied with an integral trunnion foot. This foot is to be used to support the beltcase so that the attached reducer or other equipment is not required to support the entire overhung weight of the ULTIMA. The installer must rigidly mount this additional foot in his installation. The position of the foot relative to the beltcase may be changed in 90 degree increments.

To change foot to beltcase position:

1) Remove Variable Speed discs 65 and 66 per VARIABLE DISC OR BUSHING REPLACEMENT. Do not remove variable shaft.

2) From inside ULTIMA backplate, remove bolts that attach backplate 267 and trunnion foot adapter 140 to C-Face bearing plate 165.

3) Rotate trunnion foot 140 to desired position. Align holes and reinstall bolts. Torque per standard torque specs as determined by bolt diameter.

4) Reinstall variable discs and reassemble drive.

Parts List Drawings
Pages 24-33

REPLACING ¼-TURN COVER FASTENERS 275 IN BACKBONE 267

WARNING: To ensure that drive is not unexpectedly started, turn off and lock out or tag power source before proceeding. Failure to observe these precautions could result in bodily injury.

Removal

1. Thread a (¼ inch diameter for sizes 1 and 2, 3/8 diameter for size 3) self tapping screw into the hole in the ¼-turn fastener receptacle 275. Leave the screw head protruding ¼ to ½ inch from the receptacle 275.
2. Insert a nail-puller (claw hammer or other pry bar) under the head of the screw and pry the screw and receptacle 275 out of the backplate 267.

Installation:

1. Insert the new receptacle 275 into the appropriate hole in backplate 267. Using a drift, lightly tap the receptacle into the backplate. The proper depth of the face of the receptacle below the backplate face is .03 inch.

SETTING SPEED STOPS

DANGER: Subsequent steps may require rotating parts and/or electrical circuits to be exposed. Stay clear if unit must be running or disconnect and lockout or tag power source if contact must be made. Failure to observe these precautions could result in severe bodily injury or loss of life.

NOTE: Do NOT operate ULTIMA without cover in place!

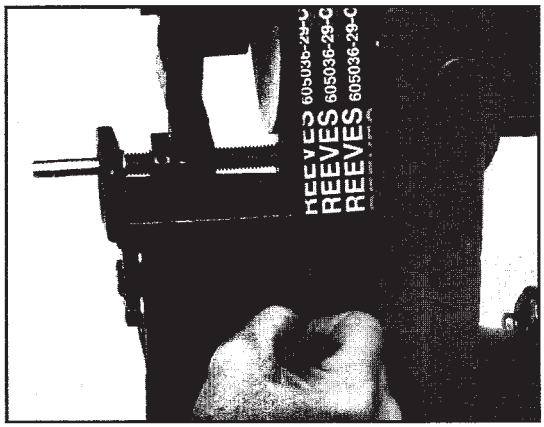
Stops must be set within nameplate speed and horsepower ratings!

All:

To reset either stop, first stop drive, remove cover 26, loosen clamp screw ½ turn in appropriate stop collar 27 (low speed stop is furthest from motor, high speed closest) with 3/16 hex key wrench, then rotate (threaded) stop on shifting screw a few turns away from the shifting nut.

Low Speed Stop:

1. Reinstall cover 26. Run drive and set output speed to required MINIMUM.
2. Stop drive. Remove cover 26.
3. Rotate stop collar furthest from motor toward shifting nut 157 until it contacts nut 157. Tighten clamp screw in stop collar.
4. Reinstall cover 26.



High Speed Stop:

1. Reinstall cover 26 after loosening clamp screw in stop collar 27 closest to motor and moving it away from the shifting nut 157. Run drive and set output speed to required MAXIMUM.
2. Stop drive. Remove cover 26.
3. Rotate stop collar 27 (closest to motor) toward shifting nut 157 until it contacts nut 157. Tighten clamp screw in stop collar.
4. Reinstall cover 26 and handwheel 12.

Parts List Drawings
Pages 24-33

HANDWHEEL ANTI-DRIFT MECHANISM

ULTIMA handwheels (both standard and indicating) are equipped with an anti-drift (friction catch) feature. This consists of a nylon ball friction catch 13 held by a spring 14 and secured and adjusted by a setscrew 284. This presses against the shifting screw 15.

ERC equipped units do not have this feature because the shifting motor contains a built-in brake.

If the handwheel moves from vibration, adjust the friction catch as follows:

1) While drive is running, shift it to high speed position.

2) Stop drive, lock out and remove cover 26.

3) Turn shifting screw Clockwise (toward low speed) until shifting yoke 23 is loose from shifting nut 157.

4) The friction catches are accessible from each side of the shifting nut (accesses are normally restricted by the shifting yoke ears). Tighten setscrew 184 slightly (1/8 inch hex wrench) to increase drag on the shifting screw. Insure that the handwheel can still be turned.

Note: All sizes use 2 friction catches.

To Reassemble:

1) Turn shifting screw 15 counterclockwise until shifting nut 157 engages ears on shifting yoke 23.

2) Reinstall beltcase cover 26.

RESETTING MECHANICAL INDICATOR HANDWHEEL

NOTE: Indicator handwheels depend on gravity and will not properly operate in vertical shaft position.

1. Adjust low and high speed stops per SETTING SPEED STOPS.
2. Shift drive to full low speed position.
3. If Mechanical Indicator Handwheel pointer is not on 0, remove quick disconnect pin 271, then rotate handwheel toward low speed direction (clockwise) until pointer aligns with 0.
4. Rotate handwheel as little as possible until cross pin hole aligns with drilled cross hole in shifting screw 15, then insert quick disconnect pin.

Parts List Drawings
Pages 24-33

TACH PICKUP FOR SIZE 3 AND ALL RAC (Magnetic Reluctance Type Pickup) RETROFIT

Install tach pickup: See page 29

a) Thread tach pickup T29 into supplied right angle mounting bracket T2 with 3/8-24 nuts on each side of bracket.

b) Remove plug in end of variable shaft 60. Thread tach adapter T14 into the end of the variable shaft 60. Thread retaining nut T15 over tach adapter T14 and tighten it against the end of the variable shaft 60. Measure the runout on the end of the tach adapter. It should not exceed .005 inch. Install pulse wheel T9 on tach adapter T14 with hub outward. Do not tighten setscrew.

c) Center tach pickup T29 and bracket T2 assembly over pulse wheel T9. With the pole piece of the tach pickup touching the top of a tooth on the pulse wheel, mark the two holes in the tach pickup bracket T2 on the bearing support bracket. Remove the tach pickup bracket and drill both marked holes with a #37 drill (.104 inch dia.) 1/2 inch deep. Attach the tach pickup bracket to the variable shaft bearing support bracket with the two supplied drive screws.

d) Center the pulse wheel T9 under the tach pickup T29. Tighten the setscrew in pulse wheel T19.

e) Loosen the nuts on the tach pickup. Adjust clearance between the pole piece on the tach pickup and the pulse wheel for .003-.010 inch clearance. Tighten nuts to secure the tach pickup. Rotate the variable shaft to be sure it does not hit the pickup.

Tach Wiring: Tach wires must be spliced to a longer cable (either shielded twisted pair or coaxial cable). The extended cable should be run out of the ULTIMA through the passage prepared by removing tach wire plug 277, then installing bushings T30 in the backplate and running the extended wire out the back of the backplate. This arrangement will allow all tach wires to remain in place during belt and constant speed disc bushing change.

ERC REMOVAL FOR BELT CHANGE OR OTHER INTERNAL SERVICE

NOTE: ERC equipped drives and retrofit kits are supplied without ERC wiring connection holes in cover E170. The installer is required to cut an appropriate sized hole where required in cover E170 to wire ERC. Be sure to house the wires in flexible conduit so ERC can be removed without disconnecting any wires.

Disassembly:

The ULTIMA ERC is designed to be easily removed for drive service, without removing any external wiring.

1) Stop drive and lock out electrical power.

2) Remove two 1/4 turn fasteners E202 that connect gearmotor cover E170 to beltcase cover E201. Pull cover E170 away from drive. Slide shifting motor E1 from shifting screw E206. Carefully disconnect 4-wire plug-in connector E207. This allows the shifting motor assembly to be separated from the limit switches without disconnecting the external wiring from the shifting motor. Lay the shifting motor assembly aside.

3) Remove beltcase cover E201 and perform any required service as detailed for the standard drive.

Reassembly:

1) After installing beltcase cover E201, position shifting motor assembly near shifting screw, then reconnect polarized 4-wire connector E207.

2) Slide motor E1 hollow output bore over shifting screw E206.

3) Slide ERC cover E170 into place. Secure cover with two 1/4 turn fasteners E202 through ERC cover 170, gasket E131 and ERC motor bracket E20 into receptacles E204 in ULTIMA beltcase cover E201.

ERC LIMIT SWITCH ADJUSTMENT

1) To adjust limit switches, run drive to desired min or max speed, but not outside nameplate specifications. Stop drive.

2) Remove two 1/4 turn fasteners E202 that connect gearmotor cover E170 to beltcase cover E201. Pull cover E170 away from drive. Slide shifting motor E1 from shifting screw E206. Carefully disconnect 4-wire plug-in connector E207. This allows the shifting motor assembly to be separated from the limit switches without disconnecting the external wiring from the shifting motor. Lay the shifting motor assembly aside.

3) Remove beltcase cover E201.

4) Loosen appropriate limit switch mounting screws (high speed switch is closest to backplate; low speed switch is closest to shifting motor) and slide limit switch E82 in bracket slots until actuator arm contacts the (preset) shifting nut ear. The proper setting is attained just before the switch "clicks". Tighten limit switch mounting screws.

5) Adjust the associated mechanical stop collar by loosening the collar's 3/16 hex locking screw, then turning the stop until it contacts the shifting nut. Then back the stop off 1/2 to 1 turn. This is to insure that limit switches stop the drive before the shifting nut hits the mechanical stop.

6) Reinstall beltcase cover E201, then install the shifting motor assembly. First, reconnect polarized 4-wire connector. Then slide the shifting motor E1 hollow output shaft over the shifting screw E206. Slide cover E170 in place and secure with 1/4 turn fasteners E202 through cover E170, gasket E131 and ERC motor bracket ears E20 into receptacles E204 in ULTIMA beltcase cover E201.

7) Run drive and verify limit switch settings.

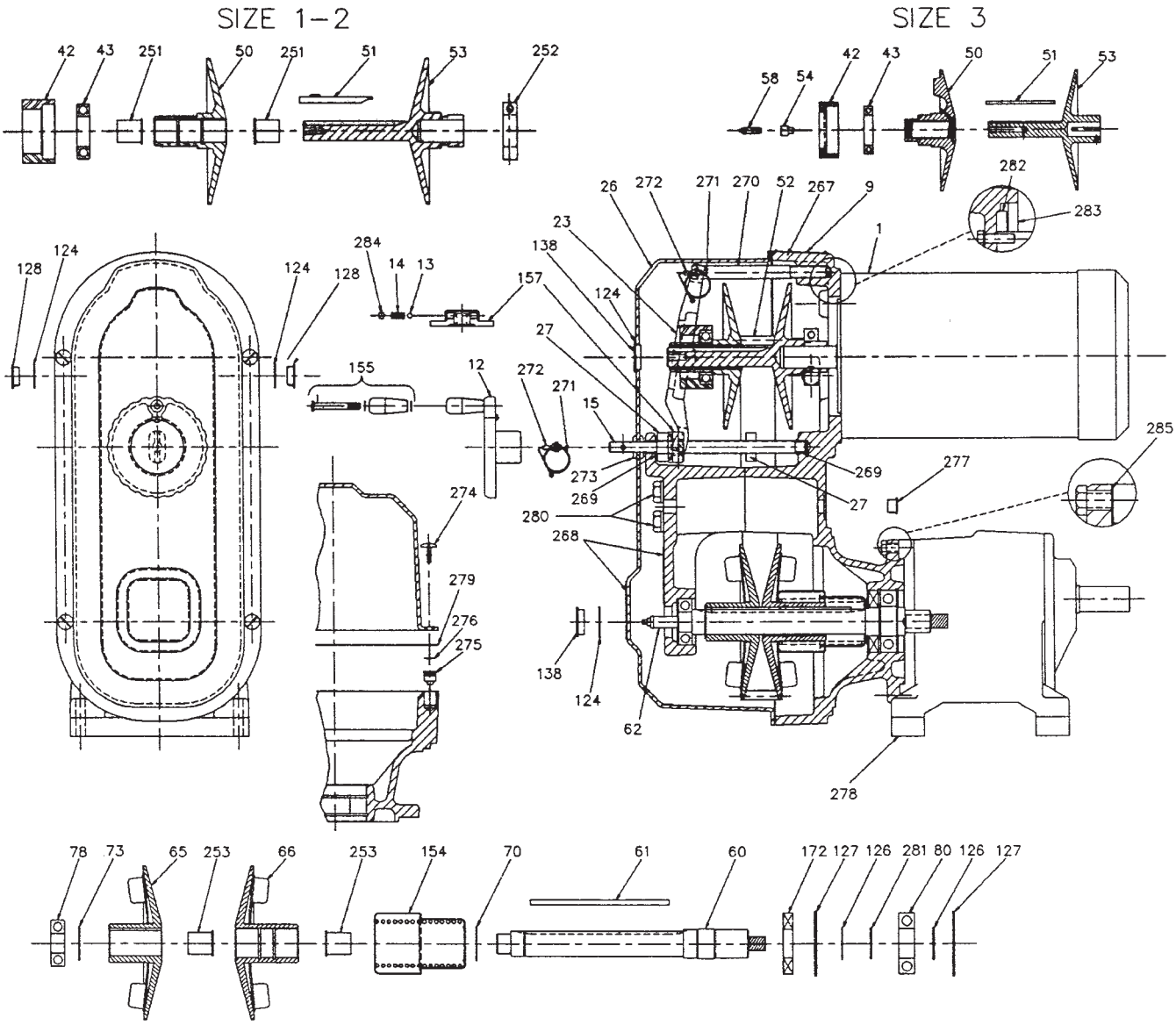
Parts List Drawings
Pages 24-33

PARTS LIST DRAWINGS

WIRING DIAGRAMS

Parts List For REEVES ULTIMA with APG Reducer

(See 499972 for APG Reducer Parts)



1	MOTOR	65	FIXED VARIABLE DISC	267	BACKPLATE & CONTROL ASSEMBLY
9	NAMEPLATE	66	SLIDING VARIABLE DISC	268	CAUTION PLATE
12	HANDWHEEL	70	RETAINING RING	269	BUSHING
13	FRICTION CATCH	73	RETAINING RING	270	SHIFTING YOKE ROD
14	FRICTION SPRING	78	BEARING	271	QUICK DISCONNECT PIN
15	SHIFTING SCREW	80	BEARING	272	PIN WIRE
23	SHIFTING YOKE	124	GASKET	273	SHIFTING SCREW GROMMET
26	COVER	126	RETAINING RING	274	STUD 1/4 TURN
27	STOP NUT	127	RETAINING RING	275	RECEPTACLES 1/4 TURN
42	THRUST BEARING HOUSING	128	PLUG BUTTON	276	RETAINER STUD 1/4 TURN
43	THRUST BEARING	138	PLUG BUTTON (SIZE 3 ONLY)	277	TACH WIRE PLUG
50	SLIDING CONSTANT DISC	154	SPRING ASSEMBLY	278	SPACER BLOCK
51	DISC KEY (CONSTANT)	155	HANDLE, PIN & WASHERS	279	COVER GASKET
52	BELT	157	SHIFTING NUT	280	CONTROL BRACKET BOLT
53	FIXED CONSTANT DISC	172	SEAL	281	SUPPORT RING
54	LUB FITTING ADAPTOR (SIZE 3 ONLY)	251	DISC BUSHING (CONSTANT) (SIZE 1 & 2 ONLY)	282	MOTOR SHIELD (SIZE 2 140TC FR. ONLY)
58	LUB FITTING (SIZE 3 ONLY)	252	DISC COLLAR (SIZE 1–2 ONLY)	283	MOTOR GASKET (SIZE 2 140TC FR. EZ-KLEEN ONLY)
60	VARIABLE SHAFT & PINION ASSEMBLY	253	DISC BUSHING (VARIABLE) (SIZE 1 & 2 ONLY)	284	SET SCREW
61	DISC KEY (VARIABLE)			285	SHIELD (APG 4 DOUBLE AND APG 5 DOUBLE ONLY)
62	LUB FITTING (SIZE 3 ONLY)				

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Parts List For REEVES ULTIMA with APG Reducer (8)

(See 499972 for DODGE APG Reducer Parts)

Sizes 1-3

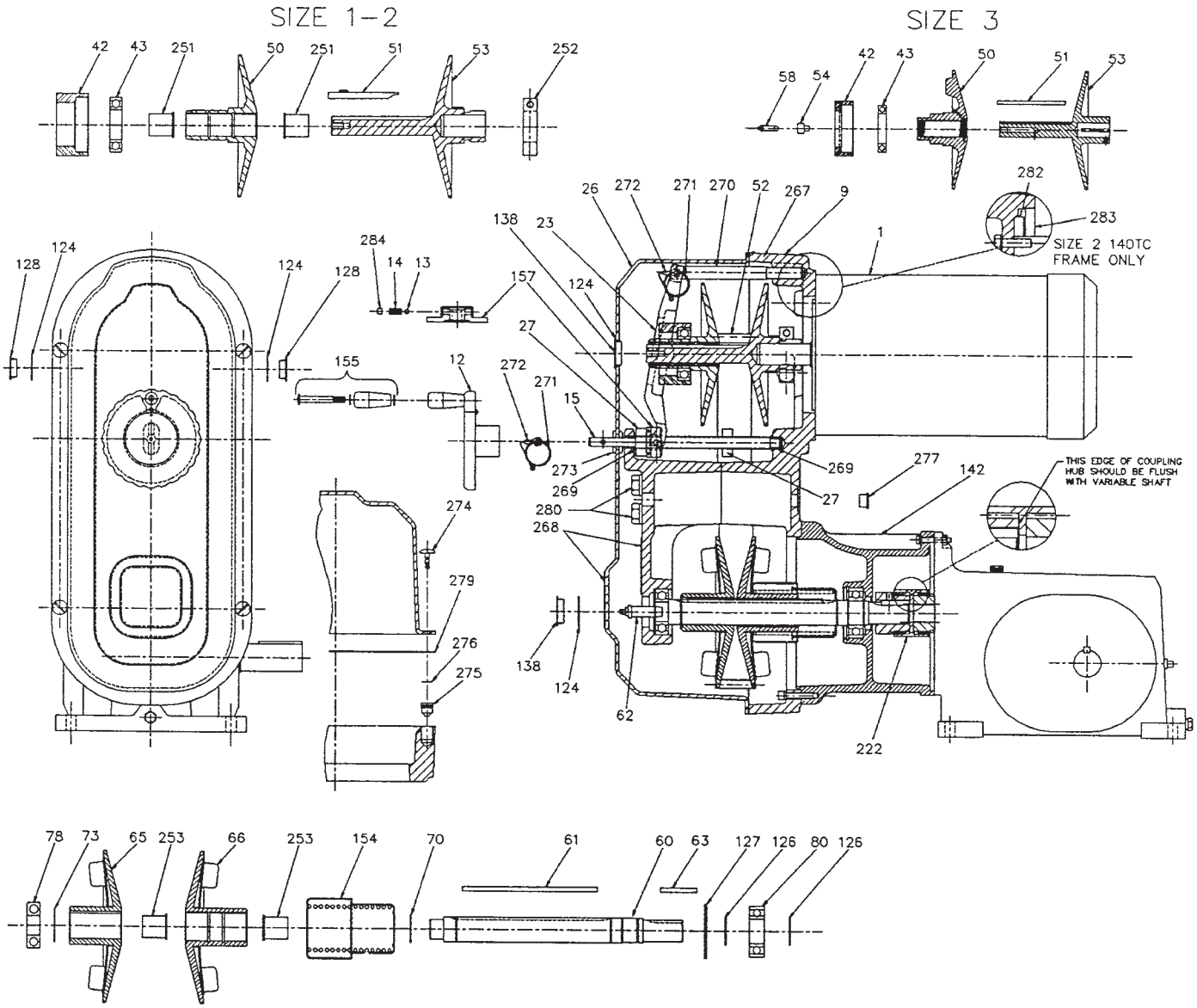
REF. NO.	QTY.	PART NUMBERS BY SIZE 1	2	3	DESCRIPTION
1	1	(1)	(1)	(1)	MOTOR
9	1	60502146BC	60502146BC	60502146BC	NAMEPLATE
12	1	60501451F	60501451F	60501451F	HANDWHEEL
13*	1 OR 2	F01464	F01464 (10)	F01464 (10)	FRICTION CATCH
14*	1 OR 2	41511062E	41511062E(10)	41511062E(10)	SPRING
15*	1	60503747B	60503747B	60503747E	SHIFTING SCREW
23*	1	70283352A	70283352B	70283352C	SHIFTING YOKE
26	1	08950405C	08950405E	08950405G	COVER
27	2	P6395030	P6395030	P6395030	STOP NUT
42*	1	60501682B	60501682C	60501682D	THRUST BEARING HOUSING
43*	1	07914701H	07914701N	07914701S	THRUST BEARING (7)
50*	1	(2)	(2)	70280802F	SLIDING CONSTANT DISC
51*	1	41510439N	41510439P	D6040019	KEY (7)
52*	1	60503629C	60503629E	60503629H	BELT
53*	1	(2)	(2)	(2)	FIXED DISC CONSTANT
54	1 OR 0	—	—	D0070038	LUB FITTING ADAPTOR
58	1 OR 0	—	—	07901913D	LUB FITTING
60	1	(3)	(3)	(3)	SHAFT/PINION ASSEMBLY
61	1	41510434CP	D6040012	D6040013	DISC KEY (4)
62	1 OR 0	—	—	07901913D	LUB FITTING
65*	1	60500707T	70280701C	D4100001	FIXED DISC VARIABLE
66*	1	41511265TT	41511265TW	D4440001	SLIDING DISC VARIABLE (5)
70	1	F04018	F04055	F04047	RETAINING RING
73	1	F04018	F04055	F04047	RETAINING RING
78*	1	07914702V	07914702AG	07914702BH	BEARI NG
80*	1	07914702AG	07914702BG	07914702DA	BEARING
124	2	D5450009	D5450026	D5450026	GASKET
126	2	F04008	F04021	F4037/F4078	RETAINING RING (#3-1 ea.)
127	2	F04054	F04009	F04033	RETAINING RING
128	2	FZ3606	FZ3605	FZ3605	PLUG BUTTON
138	1 OR 0	—	—	FZ3605	PLUG BUTTON
154	1 OR 0	60500351M	D1380042	D1380007	SPRING (8:1)
154	1 OR 0	60500351J	D1380042	D1380043	SPRING (5:1)
155	1	41511265JH	41511265JH	41511265JH	HANDLE, PIN, WASHER KIT
157*	1	60501902B	60501902B	60501902B	SHIFTING NUT
172*	1	41162701DX	41162701DY	41162701EA	SEAL
251*	1	41511265WB	41511265WC	—	BUSHING KIT (7)
252	1	41510116X	41510116Y	—	DISC COLLAR (7)
253	1	41511265MG	41511265MH	—	BUSHING KIT (6)
267	1 OR 0	08951219F	—	—	BACKPLATE (#2 APG ONLY)
267	1 OR 0	08951219K	08951219M	08951219W	BACKPLATE (#3 & 4 APG)
267	1 OR 0	08951219P	08951219P	08951219Y	BACKPLATE (#5 APG ONLY)
268	2	60502149D	60502149D	60502149D	CAUTION PLATE
269*	2	41510062CG	41510062CG	41510062CG	BUSHING, SHIFT SCREW
270	1	41510833Y	41510833Y	41510833AA	SHIFTING YOKE ROD
271	2	41511411C	41511411C	41511411C	PIN
272	2	41511411B	41511411B	41511411B	PIN WIRE
273	1	41511226J	41511226J	41511226J	GROMMET
274	4	41511321AA	41511321AA	41511321AC	STUD (9)
275	4	41511323D	41511323D	41511323E	RECEPTACLE (9)
276	4	41510777A	41510777A	41510777B	RETAINER (9)
277	1 OR 0	FZ3602	FZ3602	FZ3602	TACH WIRE PLUG
278	4 OR 0	41511367J	—	—	RISER BLOCK (#2 APG)
278	4 OR 0	—	60226508AJ	—	RISER BLOCK (#3 APG)
278	4 OR 0	—	60226508AK	41511367L	RISER BLOCK (#4 APG)
278	4 OR 0	—	—	41511367M	RISER BLOCK (#5 APG)
279	1	70281321A	70281321B	70281321C	COVER GASKET
280	4	41510898AC	41510898AD	41510898AE	BOLT
281	1 OR 0	—	—	41511158AC	SUPPORT RING (SIZE 3)
282	1 OR 0	—	60503749A	—	SHIELD (SIZE 2 – 140TC)
283	1 OR 0	—	60501326A	—	GASKET (SZ.2-140TC)(E-Z KLEEN)
284	1 OR 2	FZ0869	FZ0869 (10)	FZ0869 (10)	SET SCREW
285	0 OR 1	—	—	60503749C (11)	SHIELD

* Recommended Spare Parts

(1) Determine from motor nameplate or contact Renewal Parts with unit identification number.
(2) Refer to section E of H103 Data Book.
(3) Refer to section E of H103 Data Book.
(4) Included with Reference Number 60 Variable Shaft and Reference Number 66 Variable Disc Kit.
(5) Includes Reference Number 253 Bushings Installed and Reference Number 61 Key.
(6) Included with Reference Number 66 sliding Variable Disc Kit.
(7) Included in Constant Disc Kit for sizes 1 and 2 only. Order separately for size 3.
(8) For Reducer Parts refer to applicable pages in Section M of H103 Data Book.
(9) Size 2 uses quantity 6, size 3 uses quantity 8.
(10) Sizes 2 and 3 require quantity 2.
(11) Use for APG 4 & 5 double reducers only.

Parts List For REEVES ULTIMA with Right Angle Reducer

(See E3614 for Master XL Reducer Parts)



1	MOTOR
9	NAMEPLATE
12	HANDWHEEL
13	FRICTION CATCH
14	FRICTION SPRING
15	SHIFTING SCREW
23	SHIFTING YOKE
26	COVER
27	STOP NUT
42	THRUST BEARING HOUSING
43	THRUST BEARING
50	SLIDING CONSTANT DISC
51	DISC KEY (CONSTANT)
52	BELT
53	FIXED CONSTANT DISC
54	LUB FITTING ADAPTOR (SIZE 3 ONLY)
58	LUB FITTING (SIZE 3 ONLY)
60	VARIABLE SHAFT
61	DISC KEY (VARIABLE)
62	LUB FITTING (SIZE 3 ONLY)
63	VARIABLE SHAFT OUTPUT KEY
65	FIXED VARIABLE DISC
66	SLIDING VARIABLE DISC
70	RETAINING RING
73	RETAINING RING
78	BEARING
80	BEARING
124	GASKET
126	RETAINING RING
127	RETAINING RING
128	PLUG BUTTON
138	PLUG BUTTON (SIZE 3 ONLY)
142	XL ADAPTOR
154	SPRING ASSEMBLY
155	HANDLE, PIN & WASHER
157	SHIFTING NUT
222	COUPLING ASSEMBLY
251	DISC BUSHING (CONSTANT) (SIZE 1 & 2 ONLY)
252	DISC COLLAR (SIZE 1 & 2 ONLY)
253	DISC BUSHING (VARIABLE) (SIZE 1 & 2 ONLY)
267	BACKPLATE & CONTROL ASSEMBLY
268	CAUTION PLATE
269	BUSHING
270	SHIFTING YOKE ROD
271	QUICK DISCONNECT PIN
272	PIN WIRE
273	SHIFTING SCREW GROMMET
274	STUD 1/4 TURN
275	RECEPTACLES 1/4 TURN
276	RETAINER STUD 1/4 TURN
277	TACH WIRE PLUG
279	COVER GASKET
280	CONTROL BRACKET BOLT
282	MOTOR SHIELD (SIZE 2 140TC FR. ONLY)
283	MOTOR GASKET (SIZE 2 140TC FR. EZ-KLEEN ONLY)
284	SET SCREW

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Parts List For REEVES ULTIMA with Right Angle Reducer (7)

(See E3614 for MASTER XL Reducer Parts)

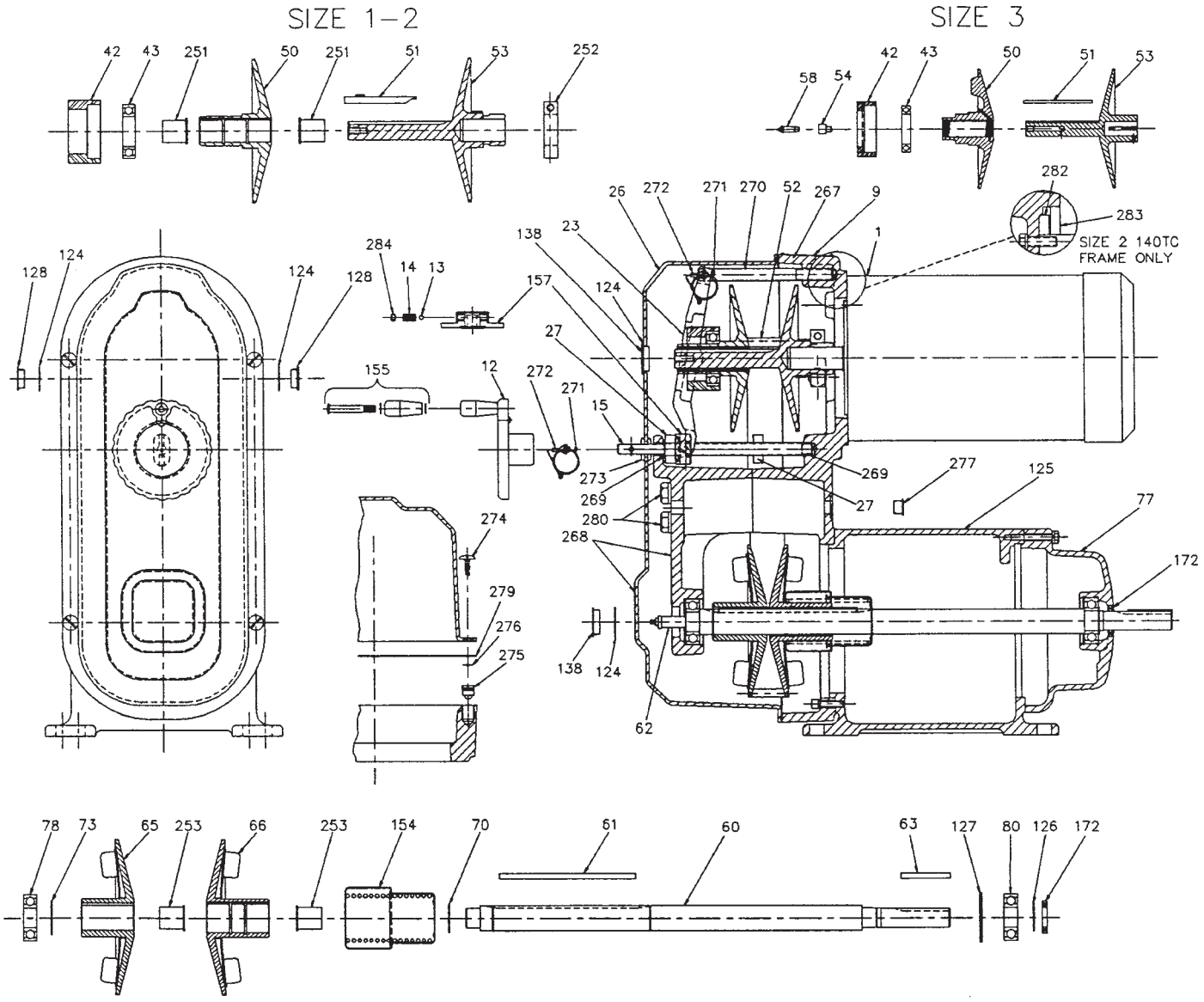
Size 1

REF. NO.	QTY.	PART NUMBERS – SIZE 1	DESCRIPTION
1	1	(1)	MOTOR
9	1	60502146BC	NAMEPLATE
12	1	60501451F	HANDWHEEL
13*	1	F01464	FRICTION CATCH
14*	1	41511062E	FRICTION SPRING
15*	1	60503747B	SHIFTING SCREW
23*	1	70283352A	SHIFTING YOKE
26	1	08950405C	COVER
27	2	P6395030	STOP NUT
42*	1	60501582B	THRUST BEARING HOUSING
43*	1	07914701H	THRUST BEARING (2)
50*	1	(3)	SLIDING CONSTANT DISC
51*	1	41510439N	DISC KEY (2)
52*	1	60503629C	BELT
53*	1	(3)	FIXED CONSTANT DISC
54	1 OR 0	—	LUB FITTING ADAPTOR
58	1 OR 0	—	LUB FITTING
60	1	60502582Y	VARIABLE SHAFT
61*	1	41510434CP	DISC KEY (4)
62	1 OR 0	—	LUB FITTING
63	1	41510434H	COUPLING KEY
65*	1	60500707T	FIXED VARIABLE DISC
66*	1	41511265TT	SLIDING VARIABLE DISC (5)
70	1	F04018	RETAINING RING
73	1	F04018	RETAINING RING
78*	1	07914702V	BEARI NG
80*	1	07914702AA	BEARING
124	2	D5450009	GASKET
126	2	F04018	RETAINING RING
127	1	F04006	RETAINING RING
128	2	FZ3606	PLUG BUTTON
138	1 OR 0	—	PLUG BUTTON
142	1	D6780345	XL ADAPTOR
154	1 OR 0	60500351M	SPRING ASSEMBLY (8:1)
154	1 OR 0	60500351J	SPRING ASSEMBLY (5:1)
155	1	41511265JH	HANDLE, PIN, WASHER ASSEMBLY
157*	1	60501902B	SHIFTING NUT
222*	1	41162904C	COUP HUB (KEYED HALF)
222*	1	41162906A	COUPLING SLEEVE
222*	1 OR 0	41162908A	COUP (SPLINED) (12-16 ONLY)
222*	1 OR 0	41162908B	COUP (SPLINED) (21-28 ONLY)
251*	1	41511265WB	BUSHING KIT (CONSTANT) (2)
252	1	41510116B	DISC COLLAR (2)
253*	1	41511265MG	BUSHING KIT (VARIABLE) (6)
267	1	08951219H	BACKPLATE
268	1	60502149D	CAUTION PLATE
269*	2	41510062CG	BUSHING, SHIFT SCREW
270	1	41510833Y	SHIFTING YOKE ROD
271	2	41511411C	DISCONNECT PIN
272	2	41511411B	PIN WIRE
273	1	41511226J	SHIFT SCREW GROMMET
274	4	41511321AA	STUD
275	4	41511323D	RECEPTACLE
276	4	41510777A	STUD RETAINER
277	1 OR 0	FZ3602	TACH WIRE PLUG
279	1	70281321A	COVER GASKET
280	4	41510898AC	CONTROL BRACKET BOLT
282	1 OR 0	—	SHIELD (SIZE 2 140TC)
283	1 OR 0	—	GASKET (SZ.2 140TC E-Z KLEEN ONLY)
284	1 OR 2	FZ0869	SET SCREW

* Recommended Spare Parts

(1) Determine from motor nameplate or contact Renewal Parts with unit identification number.
(2) Included in Constant Disc Kit.
(3) Refer to section E of H103 Data Book.
(4) Also included with Reference Number 60 Variable Shaft.
(5) Includes Reference Number 253 Bushings Installed.
(6) Included with Reference Number 66 Sliding Variable Disc.
(7) For Reducer Parts refer to applicable pages in Section E of H103 Data Book.

Parts List for REEVES ULTIMA with No Reducer



1	MOTOR
9	NAMEPLATE
12	HANDWHEEL
13	FRICTION CATCH
14	FRICTION SPRING
15	SHIFTING SCREW
23	SHIFTING YOKE
26	COVER
27	STOP NUT
42	THRUST BEARING HOUSING
43	THRUST BEARING
50	SLIDING CONSTANT DISC
51	DISC KEY (CONSTANT)
52	BELT
53	FIXED CONSTANT DISC
54	LUB FITTING ADAPTOR (SIZE 3 ONLY)
58	LUB FITTING (SIZE 3 ONLY)
60	VARIABLE SHAFT
61	DISC KEY (VARIABLE)
62	LUB FITTING (SIZE 3 ONLY)
63	VARIABLE SHAFT OUTPUT KEY
65	FIXED VARIABLE DISC
66	SLIDING VARIABLE DISC
70	RETAINING RING
73	RETAINING RING
77	BEARING PLATE
78	BEARING
80	BEARING
124	GASKET
125	CASE SUPPORT
126	RETAINING RING
127	RETAINING RING
128	PLUG BUTTON
138	PLUG BUTTON (SIZE 3 ONLY)
154	SPRING ASSEMBLY
155	HANDLE, PIN & WASHER
157	SHIFTING NUT
172	SEAL
251	DISC BUSHING (CONSTANT) (SIZE 1 & 2 ONLY)
252	DISC COLLAR (SIZE 1 & 2 ONLY)
253	DISC BUSHING (VARIABLE) (SIZE 1 & 2 ONLY)
267	BACKPLATE & CONTROL ASSEMBLY
268	CAUTION PLATE
269	BUSHING
270	SHIFTING YOKE ROD
271	QUICK DISCONNECT PIN
272	PIN WIRE
273	SHIFTING SCREW GROMMET
274	STUD 1/4 TURN
275	RECEPTACLES 1/4 TURN
276	RETAINER STUD 1/4 TURN
277	TACH WIRE PLUG
279	COVER GASKET
280	CONTROL BRACKET BOLT
282	MOTOR SHIELD (SIZE 2 140TC FR. ONLY)
283	MOTOR GASKET (SIZE 2 140TC FR. EZ-KLEEN ONLY)
284	SET SCREW

SD8100-02-D

Parts List For REEVES ULTIMA with No Reducer

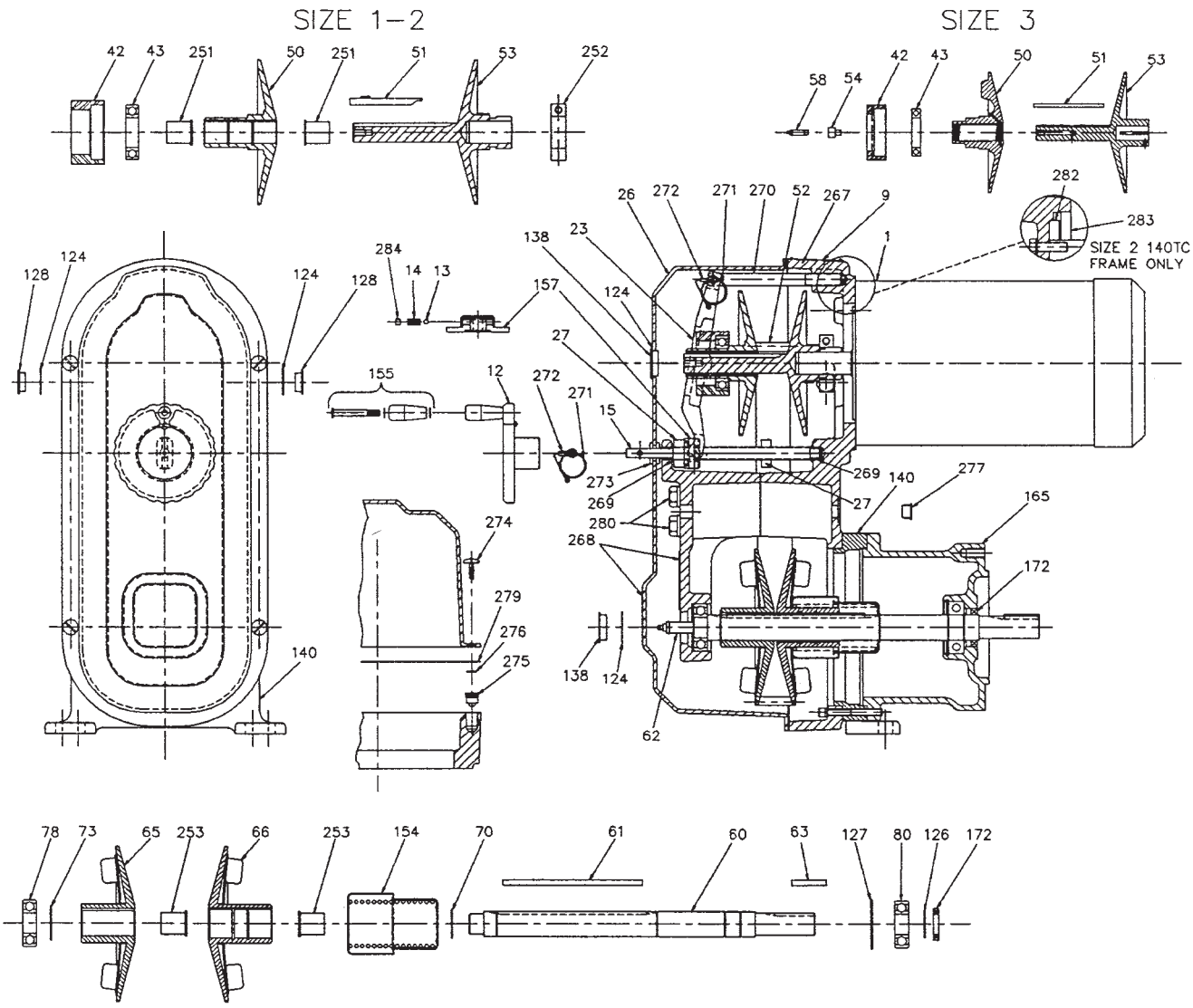
Sizes 1-3

REF. NO.	QTY.	PART NUMBERS BY SIZE 1	2	3	DESCRIPTION
1	1	(1)	(1)	—	MOTOR
9	1	60502146BC	60502146BC	60502146BC	NAMEPLATE
12	1	60501451F	60501451F	60501451F	HANDWHEEL
13*	1	F01464	F01464	F01464	FRICTION CATCH
14*	1	41511062E	41511062E	41511062E	FRICTION SPRING
15*	1	60503747B	60503747B	60503747E	SHIFTING SCREW
23*	1	70283352A	70283352B	70283352C	SHIFTING YOKE
26	1	08950405C	08950405E	08950405G	COVER
27	2	P6395030	P6395030	P6395030	STOP NUT
42*	1	60501682B	60501682C	60501682D	THRUST BEARING HOUSING
43*	1	07914701H	07914701N	07914701S	THRUST BEARING (2)
50*	1	(3)	(3)	(3)	SLIDING CONSTANT DISC
51*	1	41510439N	41510439P	D6040019	DISC KEY (2)
52*	1	60503629C	60503629E	60503629H	BELT
53*	1	(3)	(3)	(3)	FIXED CONSTANT DISC
54	1 OR 0	—	—	D0070038	LUB FITTING ADAPTOR
58	1 OR 0	—	—	07901913D	LUB FITTING
60	1	60502582BT	60502629C	D8670102	VARIABLE SHAFT
61*	1	41510434CP	D6040012	D6040013	DISC KEY (4)
62	1 OR 0	—	—	07901913D	LUB FITTING
63	1	41510434CY	D6040031	D6040040	OUTPUT KEY
65*	1	60500707T	70280701C	D4100001	FIXED VARIABLE DISC
66*	1	41511265TT	41511265TW	D4440001	SLIDING VARIABLE DISC (5)
70	1	F04018	F04055	F04047	RETAINING RING
73	1	F04018	F04055	F04047	RETAINING RING
77	1	D6780170	70281827G	D6780029	BEARING PLATE
78, 80*	2	07914702V	07914702AG	07914702BH	BEARI NG
124	2	D5450009	D5450026	D5450026	GASKET
125	1	08951132A	70283274A	D9490005	CASE SUPPORT
126	1	F04052	F04019	F04001	RETAINING RING
127	1	F04051	F04008	F04031	RETAINING RING
128	2	FZ3606	FZ3605	FZ3605	PLUG BUTTON
138	1 OR 0	—	—	FZ3605	PLUG BUTTON
154	1 OR 0	60500351M	D1380042	D1380043	SPRING ASSY. (8:1)
154	1 OR 0	60500351J	D1380042	—	SPRING (5:1)
155	1	41511265JH	41511265JH	41511265JH	HANDLE, PIN, WASHER
157*	1	60501902B	60501902B	60501902B	SHIFTING NUT
172*	1	41162702BE	41162701BX	—	SEAL
251*	1	41511265WB	41511265WC	—	BUSHING KIT (2)
252	1	41510116B	41510116Y	—	DISC COLLAR (2)
253*	1	41511265MG	41511265MH	—	BUSHING KIT (6)
267	1 OR 0	08951219H	08951219S	08951219V	BACKPLATE
268	2	60502149D	60502149D	60502149D	CAUTION PLATE
269*	2	41510062CG	41510062CG	41510062CG	BUSHING, SHIFT SCREW
270	1	41510833Y	41510833Y	41510833AA	SHIFTING YOKE ROD
271	2	41511411C	41511411C	41511411C	DISCONNECT PIN
272	2	41511411B	41511411B	41511411B	PIN WIRE
273	1	41511226J	41511226J	41511226J	SHIFT SCREW GROMMET
274	4 (7)	41511321AA	41511321AA	41511321AC	STUD
275	4 (7)	41511323D	41511323D	41511323E	RECEPTACLE
276	4 (7)	41510777A	41510777A	41510777B	RETAINER
277	1 OR 0	FZ3602	FZ3602	FZ3602	TACH WIRE PLUG
279	1	70281321A	70281321B	70281321C	COVER GASKET
280	4	41510898AC	41510898AD	41510898AE	BOLT, CONTROL BRACKET
282	1 OR 0	—	60503749A	—	SHIELD (SIZE 2 – 140TC)
283	1 OR 0	—	60501326A	—	GASKET (SZ. 2 140TC E-Z KLEEN)
284	1 OR 2	FZ0869	FZ0869 (8)	FZ0869 (8)	SET SCREW

* Recommended Spare Parts

(1) Determine from motor nameplate or contact Renewal Parts with unit identification number.
(2) Included in Constant Disc Kit for sizes 1 & 2 only. Order separately for size 3.
(3) Refer to section E of H103 Data Book.
(4) Also included with Reference Number 60 Variable Shaft.
(5) Includes Reference Number 253 Bushings Installed for sizes 1 & 2 only.
(6) Included with Reference Number 66 Sliding Variable Disc Kit.
(7) Size 2 uses quantity 6, size 3 uses quantity 8.
(8) Size 2 and 3 require quantity 2.

Parts List for REEVES ULTIMA with NEMA C-Face Output



1	MOTOR	65	FIXED VARIABLE DISC	267	BACKPLATE & CONTROL ASSEMBLY
9	NAMEPLATE	66	SLIDING VARIABLE DISC	268	CAUTION PLATE
12	HANDWHEEL	70	RETAINING RING	269	BUSHING
13	FRICTION CATCH	73	RETAINING RING	270	SHIFTING YOKE ROD
14	FRICTION SPRING	78	BEARING	271	QUICK DISCONNECT PIN
15	SHIFTING SCREW	80	BEARING	272	PIN WIRE
23	SHIFTING YOKE	124	GASKET	273	SHIFTING SCREW GROMMET
26	COVER	126	RETAINING RING	274	STUD 1/4 TURN
27	STOP NUT	127	RETAINING RING	275	RECEPTACLES 1/4 TURN
42	THRUST BEARING HOUSING	128	PLUG BUTTON	276	RETAINER STUD 1/4 TURN
43	THRUST BEARING	138	PLUG BUTTON (SIZE 3 ONLY)	277	TACH WIRE PLUG
50	SLIDING CONSTANT DISC	140	TRUNNION ADAPTOR	279	COVER GASKET
51	DISC KEY (CONSTANT)	154	SPRING ASSEMBLY	280	CONTROL BRACKET BOLT
52	BELT	155	HANDLE, PIN & WASHER	282	MOTOR SHIELD (SIZE 2 140TC FR. ONLY)
53	FIXED CONSTANT DISC	157	SHIFTING NUT	283	MOTOR GASKET (SIZE 2 140TC FR. EZ-KLEEN ONLY)
54	LUB FITTING ADAPTOR (SIZE 3 ONLY)	165	BEARING PLATE (C-FACE)	284	SET SCREW
58	LUB FITTING (SIZE 3 ONLY)	172	SEAL		
60	VARIABLE SHAFT	251	DISC BUSHING (CONSTANT) (SIZE 1 & 2 ONLY)		
61	DISC KEY (VARIABLE)	252	DISC COLLAR (SIZE 1 & 2 ONLY)		
62	LUB FITTING (SIZE 3 ONLY)	253	DISC BUSHING (VARIABLE) (SIZE 1 & 2 ONLY)		
63	VARIABLE SHAFT OUTPUT KEY				

Parts List For REEVES ULTIMA with NEMA C-Face Output

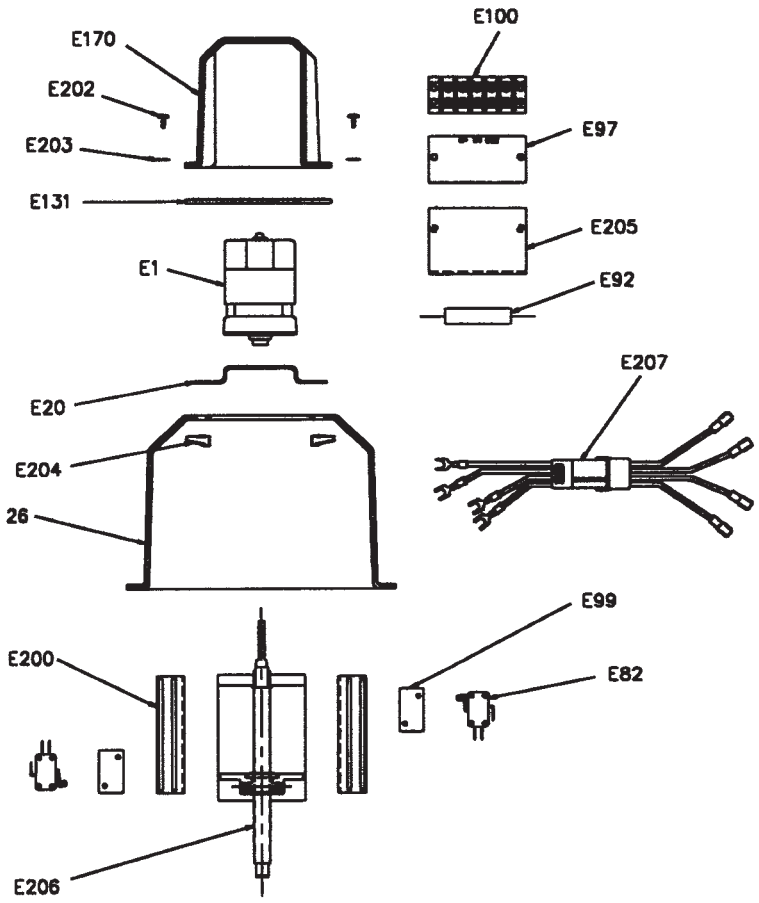
Sizes 1-3

REF. NO.	QTY.	PART NUMBERS BY SIZE 1	2	3	DESCRIPTION
1	1	(1)	(1)	—	MOTOR
9	1	60502146BC	60502146BC	60502146BC	NAMEPLATE
12	1	60501451F	60501451F	60501451F	HANDWHEEL
13*	1	F01464	F01464	F01464	FRICTION CATCH
14*	1	41511062E	41511062E	41511062E	FRICTION SPRING
15*	1	60503747B	60503747B	60503747E	SHIFTING SCREW
23*	1	70283352A	70283352B	70283352C	SHIFTING YOKE
26	1	08950405C	08950405E	08950405G	COVER
27	2	P6395030	P6395030	P6395030	STOP NUT
42*	1	60501682B	60501682C	60501682D	THRUST BEARING HOUSING
43*	1	07914701H	07914701N	07914701S	THRUST BEARING (2)
50*	1	(3)	(3)	(3)	SLIDING CONSTANT DISC
51*	1	41510439N	41510439P	D6040019	DISC KEY (2)
52*	1	60503629C	60503629E	60503629H	BELT
53*	1	(3)	(3)	(3)	FIXED CONSTANT DISC
54	1 OR 0	—	—	D0070038	LUB FITTING ADAPTOR
58	1 OR 0	—	—	07901913D	LUB FITTING
60	1	60502582BT	60502629C	D8670102	VARIABLE SHAFT
61*	1	41510434CP	D6040012	D6040013	DISC KEY (4)
62	1 OR 0	—	—	07901913D	LUB FITTING
63	1	41510434CY	D6040031	D6040040	OUTPUT KEY
65*	1	60500707T	70280701C	D4100001	FIXED VARIABLE DISC
66*	1	41511265TT	41511265TW	D4440001	SLIDING VARIABLE DISC (5)
70	1	F04018	F04055	F04047	RETAINING RING
73	1	F04018	F04055	F04047	RETAINING RING
78, 80*	2	—	07914702AG	—	BEARI NG
78*	1	07914702V	—	07914702BH	BEARI NG
80*	1	07914702AA	—	07914703R	BEARI NG
124	2	D5450009	D5450026	D5450026	GASKET
126	1	F04052	F04019	F04001	RETAINING RING
127	1	F04051	F04008	F04031	RETAINING RING
128	2	FZ3606	FZ3605	FZ3605	PLUG BUTTON
138	1 OR 0	—	—	FZ3605	PLUG BUTTON
140	1	70280008B	D0060001	D0060006	TRUNNION ADAPTOR
154	1 OR 0	60500351M	D1380042	D1380043	SPRING ASSY. (8:1)
154	1 OR 0	60500351J	D1380042	—	SPRING (5:1)
155	1	41511265JH	41511265JH	41511265JH	HANDLE, PIN, WASHER
157*	1	60501902B	60501902B	60501902B	SHIFTING NUT
165	1	70281826D	70281827M	D6780389	C-FACE BEARING PLATE
172*	1	41162702BE	41162701BX	—	SEAL
251*	1	41511265WB	41511265WC	—	BUSHING KIT (2)
252	1	41510116B	41510116Y	—	DISC COLLAR (2)
253*	1	41511265MG	41511265MH	—	BUSHING KIT (6)
267	1 OR 0	08951219H	08951219S	08951219V	BACKPLATE
268	2	60502149D	60502149D	60502149D	CAUTION PLATE
269*	2	41510062CG	41510062CG	41510062CG	BUSHING, SHIFT SCREW
270	1	41510833Y	41510833Y	41510833AA	SHIFTING YOKE ROD
271	2	41511411C	41511411C	41511411C	DISCONNECT PIN
272	2	41511411B	41511411B	41511411B	PIN WIRE
273	1	41511226J	41511226J	41511226J	SHIFT SCREW GROMMET
274	4 (7)	41511321AA	41511321AA	41511321AC	STUD
275	4 (7)	41511323D	41511323D	41511323E	RECEPTACLE
276	4 (7)	41510777A	41510777A	41510777B	RETAINER
277	1 OR 0	FZ3602	FZ3602	FZ3602	TACH WIRE PLUG
279	1	70281321A	70281321B	70281321C	COVER GASKET
280	4	41510898AC	41510898AD	41510898AE	BOLT, CONTROL BRACKET
282	1 OR 0	—	60503749A	—	SHIELD (SIZE 2 – 140TC)
283	1 OR 0	—	60501326A	—	GASKET (SZ. 2 140TC E-Z KLEEN)
284	0 OR 1	FZ0869	FZ0869 (8)	FZ0869 (8)	SET SCREW

* Recommended Spare Parts

(1) Determine from motor nameplate or contact Renewal Parts with unit identification number.
(2) Included in Constant Disc Kit for sizes 1 & 2 only. Order separately for size 3.
(3) Refer to section E of H103 Data Book.
(4) Also included with Reference Number 60 Variable Shaft.
(5) Includes Reference Number 253 Bushings Installed for sizes 1 & 2 only.
(6) Included with Reference Number 66 Sliding Variable Disc Kit.
(7) Size 2 uses quantity 6, size 3 uses quantity 8.
(8) Size 2 and 3 require quantity 2.

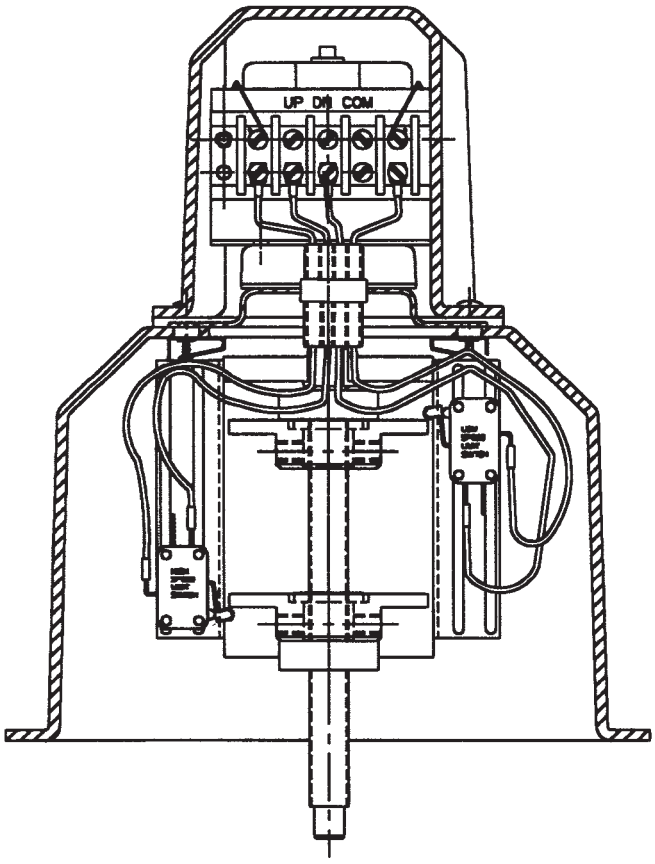
Parts List For Electric Remote Control (ERC/RAC) On REEVES ULTIMA Sizes 1-3



E 1	MOTOR
E20	MOTOR BRACKET
E82	LIMIT SWITCH
E92	MOTOR CAPACITOR
E97	MARKER STRIP
E99	LIMIT SWITCH SPACER
E100	TERMINAL BLOCK
E131	COVER HOUSING GASKET
E170	GEARMOTOR COVER
E200	LIMIT SWITCH BRACKET
E201	BELTCASE COVER
E202	STUD 1/4 TURN
E203	RETAINER 1/4 TURN
E204	RECEPTACLE 1/4 TURN
E205	TERMINAL BLOCK BRACKET
E206	SHIFTING SCREW
E207	WIRING HARNESS
26	COVER

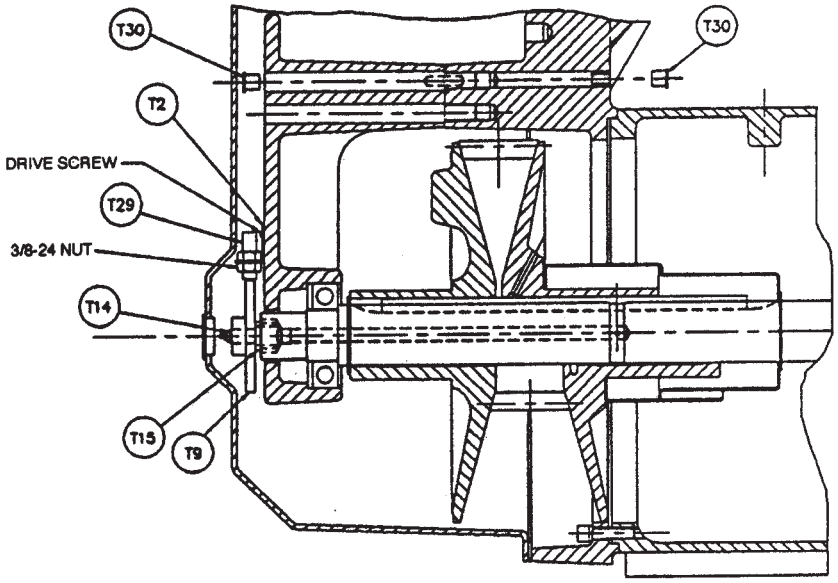
REF. NO.	QTY.	PART NUMBERS BY SIZE 1	2	3
E1*	1	60503603P	60503603P	60503603P
E20	1	60500214A	60500214A	60500214A
E82*	2	41511279A	41511279A	41511279A
E92*	1	41511223H	41511223H	41511223H
E97	1	41511224C	41511224C	41511224C
E99	2	41511367K	41511367N	41511367P
E100	1	60503710F	60503710F	60503710F
E131*	1	60503680CC	60503680CC	60503680CC
E170	1 OR 0	60500564B	60500564B	60500564B
E170	1 OR 0	60500564C	60500564C	60500564C
E200	2	60500214B	60500214B	60500214B
E201	1 OR 0	08950405F	08950405K	08950405L
E201	1 OR 0	08950405J	08950405N	08950405R
E202	2	41511321AA	41511321AA	41511321AA
E203	2	41510777A	41510777A	41510777A
E204	2	41510603E	41510603E	41510603E
E205	1	60500214C	60500214C	60500214C
E206*	1	60503747C	60503747C	60503747F
E207	1	60503657AN	60503657AN	60503657AN

* Recommended Spare Parts



SD7100-16-A

Parts List For REEVES ULTIMA Tachometer Pickup

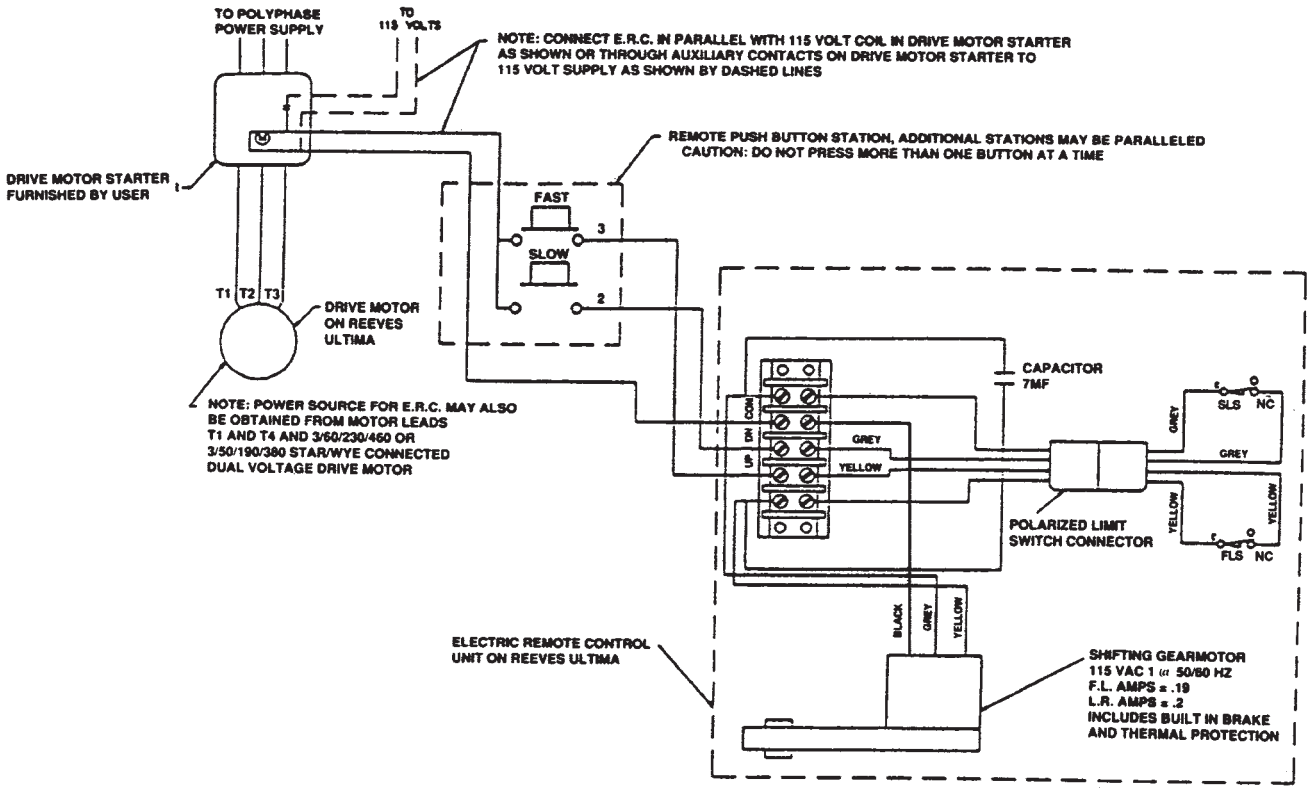


T2	MAGNETIC PICKUP BRACKET
T9	TACH GEAR
T14	TACH ADAPTOR
T15	TACH ADAPTOR NUT
T29	MAGNETIC PICKUP
T30	TACH WIRE BUSHING

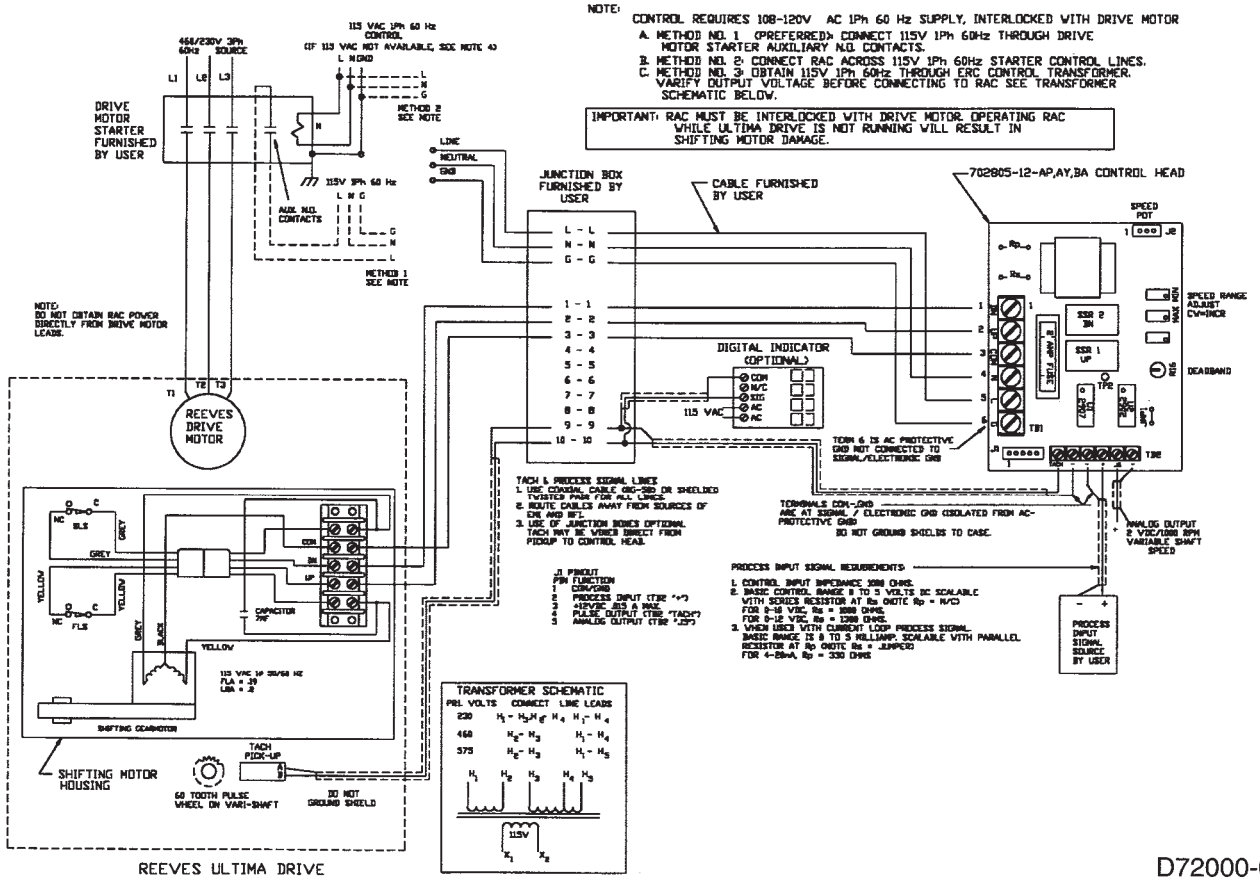
SD7100-16-B

Wiring Diagram: Electric Remote Control and RAC

CONNECTION DIAGRAM ELECTRIC REMOTE CONTROL 115V-1 PH



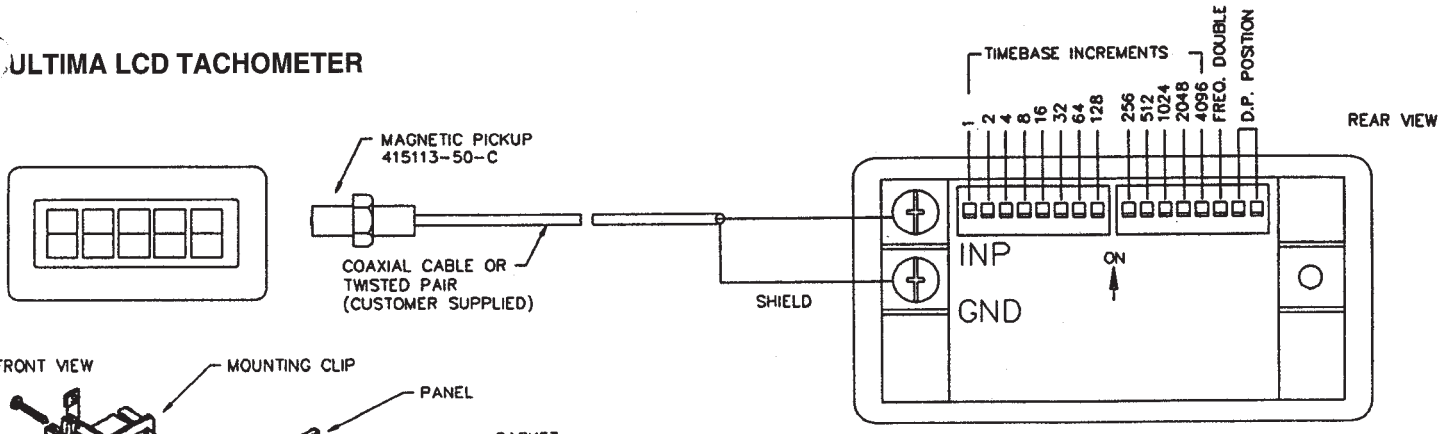
CONNECTION DIAGRAM RAC (REEVES AUTOMATIC CONTROL) 115V-1 PH

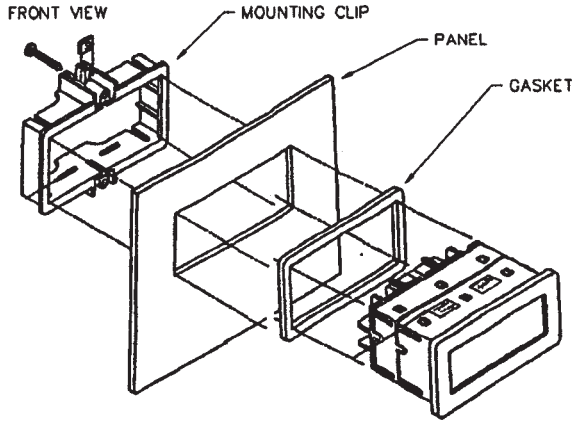


D72000-03-AM

REEVES ULTIMA Digital Indicator Connection Diagram

ULTIMA LCD TACHOMETER





NOTE:

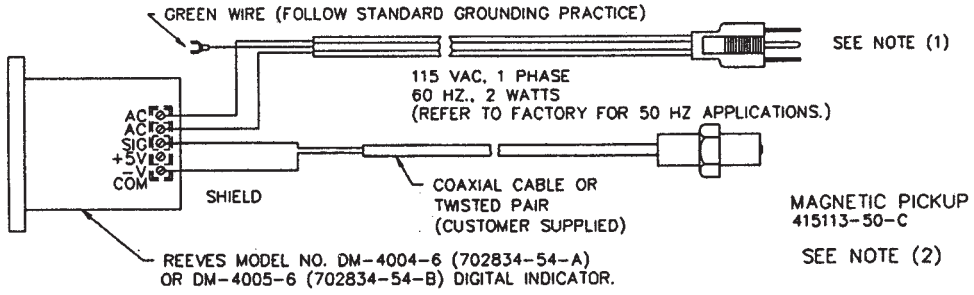
1. NON-EXPLOSION PROOF PICKUP SHOWN.
2. INDICATOR MEETS NEMA 4X/IP65 REQUIREMENTS WHEN PROPERLY INSTALLED WITH GASKET AND MOUNTING CLIP. SEE INSTRUCTIONS PACKED WITH INDICATOR.
3. INDICATOR SCALING: (DETAILED INSTRUCIONS PACKED W/INDICATOR)
   BASIC SETTING: SET TIMEBASE INCREMENT (TBIT)

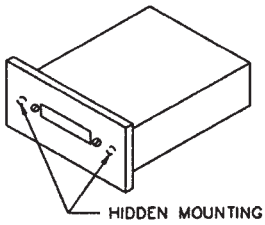
$$TBIT = \frac{DR \times DDP \times 15360}{RPM \times PPR}$$

WHERE DR = DESIRED READING
DDP = DECIMAL POINT
RPM = DRIVE OUTPUT SPEED AT DR MULTIPLIED BY DRIVE REDUCER RATIO
PPR = TEETH ON PULSE WHEEL (60 STD., 40 XP ONLY)

REF.: SD7100-10-G DIMENSION SHEET

ULTIMA LED TACHOMETER





REMOVE 2-SCREWS FROM FRONT OF LENS.
REMOVE LENS TO EXPOSE TWO HIDDEN MOUNTING HOLES.

REF.: D42000-39-N INSTRUCTIONS & SD-7100-10-B DIMENSION SHEET.

NOTE:

1. 6 FT. OF 3-WIRE POWER CORD AND 3-PRONG PLUG. FOLLOW PROPER GROUNDING PRACTICE. POWER CORD IS NOT PROVIDED ON INDICATORS FURNISHED IN NEMA 4X OR EXPLOSION PROOF HOUSINGS.
2. MAGNETIC PICKUP 415113-50-C PRODUCES 60 PULSES PER REVOLUTION OF THE VARIABLE SHAFT. IF REQUIRED, PROGRAM DIGITAL INDICATOR ACCORDINGLY.

D62000-14-C