



A **BOVER** COMPANY

Automation
Robohand *FERGUSON*
CAMCO

SERVICE MANUAL RD SERIES INDEX DRIVES

MODELS 425RD, 800RD, 1301RD , 1801RD

WARNING

This is a controlled document. It is your responsibility to deliver this information to the end user of the CAMCO or FERGUSON product. Failure to deliver this could result in your liability for injury to the user or damage to the machine. For copies of this manual, call your Customer Service Representative at 800-645-5207

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INTRODUCTION

This service manual pertains to the disassembly and assembly of CAMCO's RD Series Index Drive models 425RD, 800RD, 1301RD and 1801RD.

The manual is to be used in conjunction with the General Service Manual which describes the lubrication and general maintenance of CAMCO Index Drives.

An exploded view of your specific Index Drive is included in this manual. Also included is a complete Bill of Materials for your convenience in identifying and ordering spare or replacement parts.

Some users of Index Drives have the facilities and trained personnel to accomplish service repair. You must determine the extent to which intricate servicing should be done in your own facility. When in doubt, CAMCO recommends that CAMCO trained servicemen make the repairs.

WARNINGS AND CAUTIONS

Statements in this manual preceded by words **WARNING** or **CAUTION** and printed in italics are very important. We recommend you take special notice of these during service or repair.

WARNING

Means there is the possibility of personal injury to yourself or others.

CAUTION

Means there is the possibility of damage to the CAMCO unit.

OIL SEAL REMOVAL

The only repair possible without disassembly of the indexer is replacement of oil seals. To remove oil seals, drill a number of holes into the case of the seal. The seal may then be removed with a pointed tool. Be sure to remove all metallic chips created during the drilling of removal holes. A new seal may be installed as outlined in the "Oil Seal Installation Recommendations" section of the "General Service Manual".

SPARE PARTS KIT

CAMCO offers a Spare Parts Kit for all CAMCO index drive models CAMCO builds. These kits include oil seals, bearings, shims and cam followers. These are components that will most likely require replacement during repair of your index drive. CAMCO recommends a Spare Parts Kit be purchased and kept on hand prior to any disassembly of your CAMCO drive.

A complete list of components supplied in the Spare parts Kit can be found in the parts list located in the rear of this manual. The asterisk behind the item number indicates those parts supplied with the Spars Parts Kit.

BEFORE STARTING

Before starting disassembly of your CAMCO unit you should read and review the following instructions. These provide important information on parts and procedures necessary to successfully complete your repair.

Comply with all Warnings and Cautions.

Read the "Trouble Shooting Guide" section of your "General Service Manual" before disassembling CAMCO units. CAMCO recommends returning defective equipment for inspection and repair whenever possible.

CAMCO uses Loctite to secure all screws and setscrews. If you encounter a fastener that is difficult to remove, apply heat to the screw and remove while still warm.

DISASSEMBLY

1. Remove all accessory equipment such as clutches, reducers, sprockets, etc. If equipped with a CAMCO R250 reducer see disassembly instructions pertaining to this reducer prior to removal.
2. Drain oil and flush unit with flushing solvent. Retain any chips or broken pieces you may find. These may aid in diagnosis.
3. If your unit is equipped with a stationary centerpost you must remove it before proceeding. Turn the unit over, remove the centerpost mounting capscrews, and tap the top of the centerpost with a soft faced hammer. Save the gasket for later installation.
4. Remove bottom cover (base plate). Remove capscrews and tap the plate away from the housing using a soft faced hammer, alternating from corner to corner to avoid cocking on the dowel pins. On the 1301RD, remove both covers. These are not doweled and should not require alternate corner tapping.
5. If your unit has a through hole it will be necessary to remove the seal before proceeding. Use the procedure outlined in the general statements at the top of this page. The 425RD will also have a seal backing ring which can be removed by inserting capscrews into the tapped holes provided and prying under the heads until the ring is free.

6. REMOVING OUTPUT SHAFT.

- A. Remove the lower output locking nut. This may require a special tool which can be supplied by CAMCO or fabricated by the customer. Fabrication of a special tool can be done by taking a short piece of tubing with the inside diameter slightly larger than the outside diameter of the nut. At one end weld four small pieces of square keystack inside the tube and in line with the notches on the locknut. On the other side cross drill a hole through both walls for insertion of a round bar.

- B. Using an arbor press carefully push the output shaft assembly toward the top of the unit. You may use a lead hammer or equivalent in place of the arbor press. This will automatically remove the lower bearing cone from the shaft.
- C. Once you have cleared the bottom bearing the shaft will drop somewhat. After it drops, continue pressing in order to remove the large output bearing retainer. Save the shim basket for later installation. (This note not applicable to the 1301RD).

7. INSPECTION OF FOLLOWERS

Inspect followers for damage or radial looseness. Looseness should not exceed .001 inch. Do not confuse radial looseness with axial endplay. Endplay will be from .03 to .06 as a normal condition. If endplay exceeds .06, followers may require replacement.

NOTE: Generally, followers are replaced as added insurance against eventual failure.

8. FOLLOWER REMOVAL.

- A. Remove the setscrews. Apply heat to the setscrews holding the follower studs and remove while still warm.
- B. Threaded holes have been provided in the ends of the follower for ease of removal. Use a slide hammer or a simple self-made pull tool. The self made pull tool consists of a short piece of round tubing large enough to clear the follower diameter and a small flat bar with a clearance hole large enough to insert a capscrew of equal thread size as the follower pull hole. Slip the tube over the follower. Place the bar over the tube and thread a capscrew into the follower. Tightening the capscrew will remove the follower.
9. Check the follower holes for roundness. These may be worn out due to overloads. The holes should be round within .0005 to permit reuse of the follower wheel.

10. REMOVAL OF BEARINGS.

- A. Remove the large output bearing cone from the output shaft by prying from the backside of the cone with a flat blade screwdriver, working around the perimeter as you pry to prevent binding.
- B. Removal of the lower bearing cup from the housing is accomplished with a small diameter aluminum bar and a hammer. Place the bar against the protruding edge of the cup and tap with the hammer, working around the perimeter to prevent binding. Continue this until the cup is free of the housing.
- C. Remove the large output bearing cup from the bearing retainer by prying from the backside of the cup with a flat blade screwdriver, working around the perimeter as you pry to prevent binding. The 1301RD will require removal of bearing cup from the housing since it does not have a retainer.

11. INPUT SHAFT /CAM REMOVAL.

NOTE: The output shaft must be removed prior to input shaft removal.

- A. Rotate the input shaft and inspect all parts for wear or damage. Endplay in the input shaft is not permissible.
- B. Match mark all input cartridges relative to the housing. These must be reinstalled in the same side and position since they are eccentric.
- C. Remove all input bearing cartridge capscrews.
- D. Tap on the end of the input shaft to drive the opposite cartridge from the housing. Then drive the shaft in the opposite direction for removal of other cartridge.

NOTE: Keep shims with their respective cartridges. You will be asked to reinstall or replace with the same shim thickness during assembly.

- E. Use a wheel puller to remove the bearing cones from the input shaft.
 - F. Remove the cam locknuts with a spanner wrench. Be sure to bend the washer locking tang away from the nut prior to removal.
 - G. Press the shaft through the hole previously occupied by the input cartridge (removed in Step D) This will automatically remove the cam from the input shaft. The use of an arbor press is recommended but this procedure can be accomplished by driving the shaft through with a soft faced hammer.
 - H. Remove cam through the output or bottom opening.
13. Remove the input bearing cups from the cartridges with a pulley puller, by prying or by drilling and tapping for jack screws.

ASSEMBLY

PRIOR TO REASSEMBLY

1. Clean and deburr all parts before reassembly.
2. Follow tightening torque and Loctite recommendations as outlined in the General Service Manual.

1. Use an arbor to press the bearing cups into the cartridges. Coat the outside of the cup and the bore of the cartridge with an anti-sieze lubricant prior to pressing. Fill cavity of cartridges with bearing grease recommended in the General Service Manual.

2. ASSEMBLING INPUT SHAFT.

NOTE: Assembly of the cam and bearings to the input shaft must be done inside the housing.

- A. Use an arbor to press the cam onto the shaft. Be sure the key is installed into shaft first. Apply anti sieze lubricant to shaft and bore prior to pressing. Heat the bore prior to pressing. A heat gun is recommended, if available.
- B. Use a spanner wrench to install the cam locknuts. Adjust nuts to center cam on shaft.
- C. Use an arbor to press bearing cones onto shaft. Coat shaft and bearing bore with anti-sieze lubricant prior to pressing. Heat the bore prior to pressing. A heat gun is recommended, if available.
- D. Install the input cartridges. Be sure to install the same exact shims or equivalent height as was removed in disassembly-step 11D.
- E. Line up match marks.
- F. Tighten cartridge mounting screws.

- G. If endplay exists remove an equal amount of shims from each side until there is a small amount of drag from preloading the bearings. In rare instances it may be necessary to remachine the cartridges if all shims have been removed and endplay still exists.

- H. Loosen input cartridge screws and rotate the cartridge top to the most rearward position attainable within the slots provided in the cartridge.

3. Install the lower bearing cup into the housing. This is done with the use of an aluminum bar and hammer. Place the bar against the cup and tap, working your way around the perimeter to avoid cocking. Continue this procedure until the cup is completely seated.

4. Install the large upper output bearing into the bearing retainer in the same manner as Step 4. The 1301RD will require bearing installation in the main 8 housing since a retainer is not used.

5. ASSEMBLY OF OUTPUT SHAFT.

- A. Install the large bearing cone on the output shaft. Coat the bore of the cone with an anti-sieze lubricant prior to installation. Tap in place as described in Step 4.
- B. Slip the large bearing retainer ring over the small end of the output shaft and past the follower holes. Be sure the cup and cone portion of the bearing matches prior to proceeding. (Not applicable to the 1301RD.)
- C. Install new followers with an arbor press.

CAUTION: Be sure to press the followers in straight as damage to the follower and wheel could occur if improperly aligned during installation. Be sure the notches are aligned with the setscrew holes.

D. Install the setscrews. The cone point setscrews lock into the "V" notch. The cup point setscrews lock against the flat. If you have a single notch follower, use an ovalpoint setscrew. Be sure to use Loctite thread locking liquid as recommended in the General Service Manual.

E. Insert the output shaft follower wheel assembly into the housing.

F. Coat the sealing edge of the large bearing retainer and the edge of the housing with "Permatex". Install the shim gasket removed in disassembly. Tap the bearing retainer ring into the housing with a soft faced hammer, working around the perimeter to avoid cocking. (Not applicable to the 1301RD.)

G. Turn the unit over. Install the bearing cone on the small end of the output shaft. Coat the outside of the shaft and the bore of the bearing with anti-sieze lubricant prior to pressing. If a heat gun is available, heat up the bearing prior to pressing.

H. Install and tighten the bearing locknut using the special tool described in disassembly Step 6A. Do not over tighten locknut. Tighten only to the point where all axial endplay is removed from the shaft.

6. SETTING CAM.

CAUTION: *This mechanism is designed to operate with adjacent followers in close contact along their entire width with the surface of the cam during the dwell period. Unless this condition is achieved by proper installation, the mechanism will not transmit its rated load and serious damage to the cam and output shaft will occur.*

A. Place the cam in dwell, keyway facing rearward.

B. Rotate the tops of both input cartridges toward the output until the cam followers touch the cam.

C. Shift the cam axially until two adjacent followers are in full contact with the cam rib. This will also require adjustment of the eccentric input cartridges along with axial adjustment of the cam.

1. If there is a gap at the root of the follower the cam should be shifted toward that follower.

2. If there is a gap at the tip of the follower the cam should be shifted away from that follower.

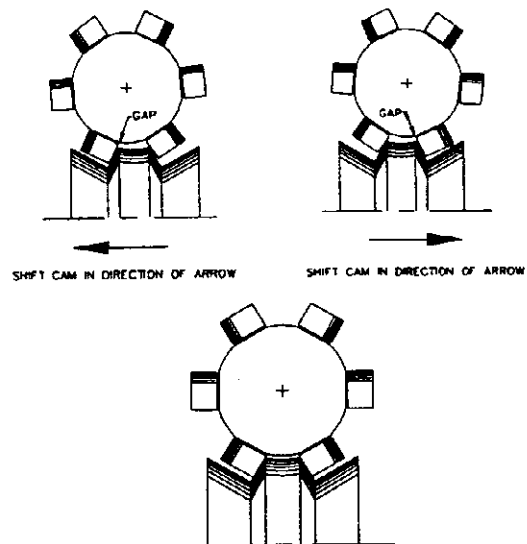


Fig. 10. Centering cam on shaft.

D. Apply "Prussian Blue" to the entire cam track.

E. Rotate the camshaft slowly with a small handcrank to ensure that:

1. Both rollers are in contact with the cam rib in dwell. Look for uniform bluing pattern.

2. The follower at the center of the crossover track is free.

3. You should not encounter any unusual resistance in motion. The bluing pattern should be fairly uniform from one adjacent cam track to the other during motion. If a patch of bluing is removed from the cam track on one side of the cam and not the adjacent, shift the cam .002 to .005 inches in the direction of the cleaner cam track or knocking will occur.
 4. The cam bluing should never be worn off the leading or exit edges of the cam ribs. This would indicate that the cam is not adjusted properly.
 5. There should be no looseness in any dwell. If there is, adjust the eccentric input cartridges to slightly preload the loosest dwell.
- F. Tighten the locknuts and secure with Loctite #242 as specified in the General Service Manual. If lock-washers are used on your model, bend the tangs over the nut to insure locking.
- G. Tighten the input cartridge capscrews and dowel the cartridges to the housing.
- H. Double check for endplay in output shaft. Tighten locknut if required. Bend locking tang of washer. Endplay is not permissible in the output shaft.
7. Install new bottom seal and ring if applicable (if your unit has a through hole and you followed disassembly Step #5).
 8. Cover the bottom of the housing with "Permatex". Install the bottom cover, tighten capscrews and dowel in place. (Not required on the 1301RD.) Be sure to reinstall cover gaskets on the 1301RD.
 9. Reinstall stationary centerpost if applicable. Use shim gasket and Permatex to seal against leakage.
 10. Grease pack the main output bearing with lubricant specified in the General Service Manual.
 11. Fill the Index Drive with the recommended oil to level indicator. See General Service Manual. Too high an oil level will cause no damage, too low a level may result in unit failure.

HOW TO ORDER PARTS

Please refer to parts list shown in this manual. This parts list is for a standard Index Drive. If you feel your drive is nonstandard or you are in doubt you should contact CAMCO Customer Service at (847) 459-5200 and request a Bill of Material for your specific unit based on serial number. CAMCO maintains records on all units for a period of ten years.

You may order parts per the standard Bill of Material even if your unit is nonstandard. CAMCO's order entry people will review the closed order file based on the following information and supply you with the correct part.

REQUIRED INFORMATION

1. Original purchase order number (if available)
2. Customer name (original purchaser of drive)
3. Model number (located on name plate)
4. Serial number (located on name plate)
5. Approximate date of purchase.

TO ORDER PARTS contact CAMCO "Order Entry Department" Wheeling, Illinois Phone(847) 469-5200 or FAX #847-459-3064

A. Describe the parts required and the 14 digit part number as listed in the Standard Bill of Materials or a Special Bill of Materials pertaining to your unit. State if you are using a Standard or Special bill of material.

B. Give as much of the above required information as possible.

ON WARRANTY

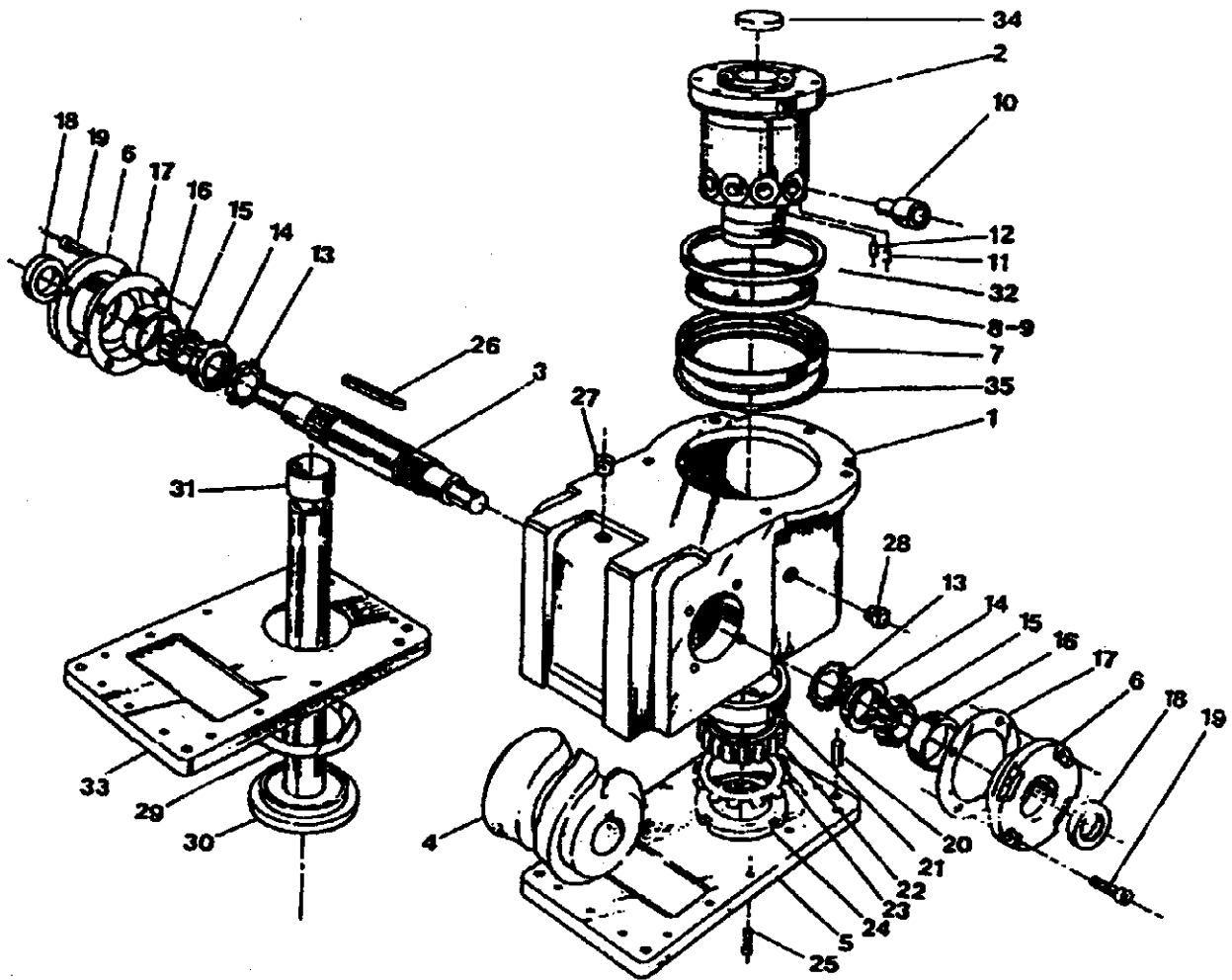
CAMCO will send replacement parts freight prepaid via most practical means.

CAMCO will issue a "Returned Material Authorization Number" (RMA#) for the return of defective parts for inspection. CAMCO will bill the customer for repair parts. When inspection of returned parts has been completed and determined to be a warranty problem, CAMCO will issue a credit to the customer for the repair parts and freight charges.

ON NON-WARRANTY

Replacement or spare parts, with approved credit, are sent F.O.B. our plant Wheeling, Illinois.

425RD & 800RD



PARTS LIST FOR 425RD INDEX DRIVE (STANDARD CONFIGURATION)

<u>ITEM NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>
1	58D10998001004	Housing
2	58C11182014006	"Follower Wheel 6 Hole 1"" Follower"
	58C11182024008	"Follower Wheel 8 Hole 1"" Follower"
	58C11182034012	"Follower Wheel 12 Hole 3/4"" Follower"
	58C11182044010	"Follower Wheel 10 Hole 3/4"" Follower"
	58C11182054016	"Follower Wheel 16 Hole 5/8"" Follower"
	58C11182064008	"Follower Wheel 8 Hole 3/4"" Follower"
3	58B11260007002	Input Shaft Dbl (W/O Reducer)
	81K16811007002	Input Shaft Dbl (For R200)
	58C49457007002	Input Shaft Dbl (For 180sm)
4	-----	"Cam, (Specify Number Of Stops And " "Index Time, Contact Camco For " "Assistance, Order In Matched Sets)"
5	58C10999002004	Cover Bottom (Stand)
	58C17866002004	Cover Bottom (W/ Through Hole) (Also Required With Through Hole Is Ring #58a17841009900 And Oil Seal #84d07329180000)
6	48B06518003122	Cart Open Ecc
7	58B11265003121	Cart Open Output
8	86D07328720021	Brg Cone L319249
9	86D07328720022	Brg Cup L319210
10	82C33150040003	"Follower 1"" Dia."
	82C33150020003	"Follower 3/4"" Dia."
	82C33150010003	"Follower 5/8"" Dia."
11*	95A26012130000	S.S.S. Oval Pt 1/4-20 X 3/8
12	-----	Not Used On 425rd
13	-----	Not Used On 425rd
14	95A26009070000	Locknut Pn-07
15*	86D07328190021	Brg Cone 15578
16*	86D07328190022	Brg Cup 15520
17*	48A06080018800	"Shim, .001thk"
*	48A06080028800	"Shim, .005thk"
*	48A06080038800	"Shim, .010thk"
18*	84D07329140000	Oil Seal C/R 10124
*	84D07329180000	Oil Seal C/R 11878
19	95A08089000000	Special Large Hd Socket Scr
20	95A26007240000	Dowel Pin 1/4 X 3/4
21	86D07328300022	Brg Cup 13621
22	86D07328300021	Brg Cone 13687
23	-----	Not Used On 425rd
24	95A26009070000	Locknut Pn-07
25	95A26000400000	S.H.C.S. 1/4-20 X 3/4
26	031K187	Key 5/16 X 1 7/8
27	95A33000010000	Air Vent 3/8-18
28	95A33001010000	Sight Plug 3/8-18
29	-----	Not Standard On 425rd
30	-----	Not Standard On 425rd
31	-----	Not Standard On 425rd
32*	84D07329660000	Oil Seal C/R 42426
33	-----	Not Standard On 425rd
34	58A11267009410	Plug
35*	58B11266018800	"Shim, .001thk"
*	58B11266028800	"Shim, .005thk"
*	58B11266038800	"Shim, .010thk"
36	81K16813009100	Mounting Plate (For R200)
	80C49453009100	Mounting Plate (For 180SM)
37*	99A44547010000	General Service Manual
38*	99A44547060000	Service Manual-Rd

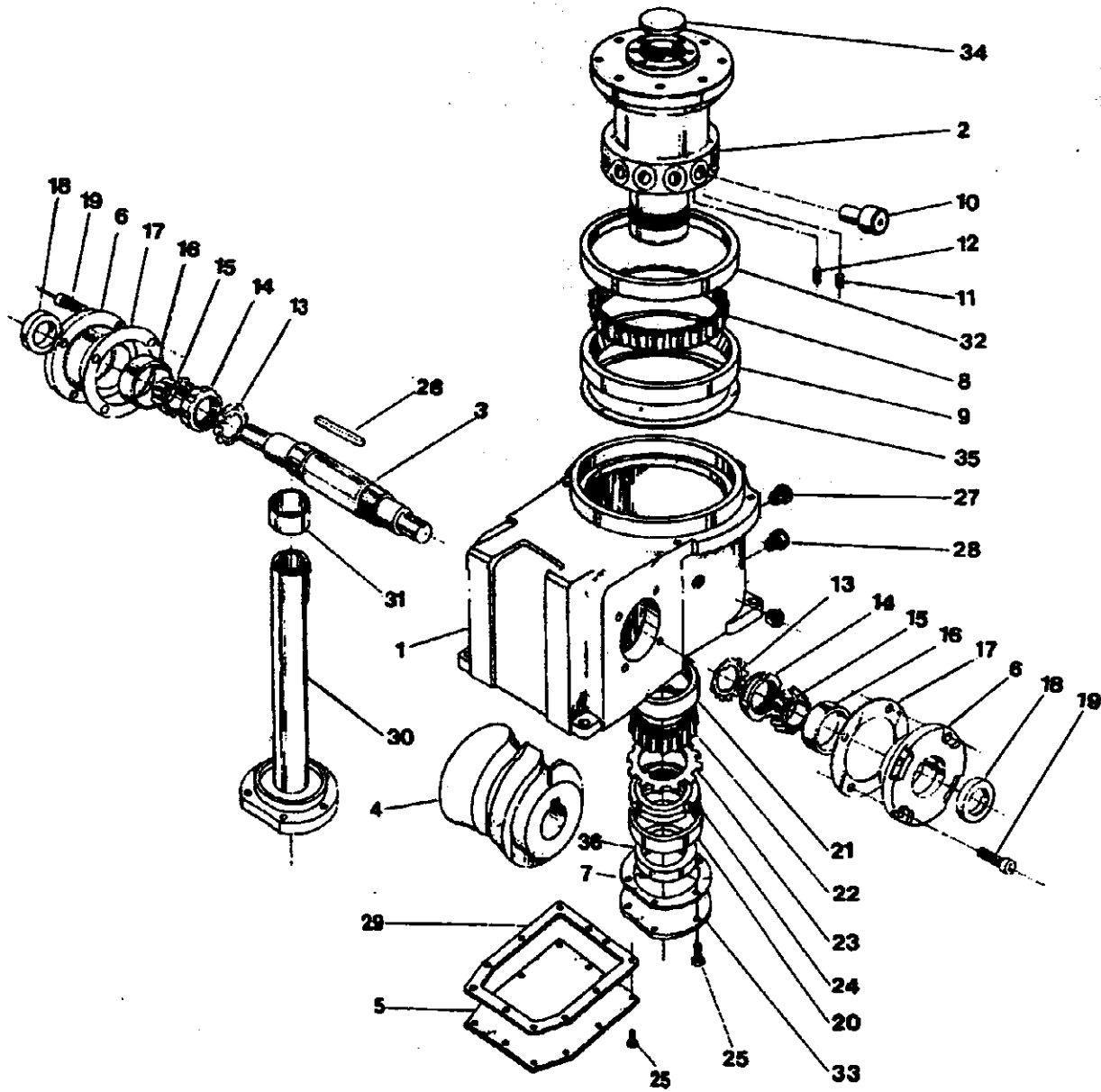
* Indicates parts supplied with Spare Parts Kit #425RD SPK

PARTS LIST FOR 800RD INDEX DRIVE (STANDARD CONFIGURATION)

<u>ITEM NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>
1	60G10957001004	Housing
2	60D10979014006	"Follower Wheel 6 Hole 2"" Follower"
	60D10979024008	"Follower Wheel 8 Hole 2"" Follower"
	60D10979034008	"Follower Wheel 8 Hole 1 3/4"" Follower"
	60D10979044012	"Follower Wheel 12 Hole 2 1/2"" Follower"
	60D10979054012	"Follower Wheel 12 Hole 1 1/4"" Follower"
	60D10979064009	"Follower Wheel 9 Hole 1 1/2"" Follower"
	60D10979094010	"Follower Wheel 10 Hole 1 1/2"" Follower"
3	60C10978007002	Input Shaft (W/O Reducer)
	80C11112007002	"Input Shaft (For 3"" Red, 3.5""Red)"
4	-----	"Cam, (Specify Number Of Stops And Index Time, Contact Camco For " "Assistance, Order In Matched Sets)"
5	60D10961002004	Cover Bottom (Standard)
	60C17868002004	Cover Bottom (W/Through Hole) (Also Requires Oil Seal #84d07329570000)
6	60B11037003122	Cart Open Ecc
7	60C10980003121	Cart Open Output
8	86D07328880021	Brg Cone 36990
9	86D07328880022	Brg Cup 36920
10	82C10457080003	"Follower 2"" Dia."
	82C10457050003	"Follower 1 1/4"" Dia. "
	82C10457060003	"Follower 1 1/2"" Dia."
	82C10457070003	"Follower 1 3/4"" Dia."
11*	95A26005450000	S.S.S. Cup Pt 1/4-20 X 1/2
12*	95A26006210000	S.S.S. Cone Pt 1/4-20 X 1/2
13	95A26010140000	Lockwasher W 14
14	95A26009140000	Locknut Pn-14
15*	86D07328460021	Brg Cone 45287
16*	86D07328460022	Brg Cup 45220
17*	60B11038018800	"Shim, .001thk"
	* 60B11038028800	"Shim, .005thk"
	* 60B11038038800	"Shim, .010thk"
18*	84D07329380000	Oil Seal C/R 21336
19	95A08116000000	Special Large Hd Socket Scr
20	95A26007460000	Dowel Pin 3/8 X 1
21	86D07328700022	Brg Cup Jm716610
22	86D07328700021	Brg Cone Jm716649
23	95A41521170000	Lockwasher (Wh Series)
24	95A26009170000	Locknut Pn-17
25	95A26000550000	S.H.C.S. 5/16-18 X 7/8
26	062K375	Key 5/8 X 3 3/4
27	95A33000020000	Air Vent 1/2-14
28	95A33001020000	Sight Plug 1/2-14
29	60B11142008800	Shim Cap
30	60C11141009540	Shaft Stationary Output
31	86A11154009900	Brg Sleeve Bronze Spec.
32*	84D07329850000	Oil Seal C/R 90006
	* 84D07329570000	Oil Seal C/R 31353
33	60C11140002004	Cover (For Sta. Output Shaft)
34	60A11046009410	Plug
35*	60B10981018800	"Shim, .001thk"
	* 60B10981028800	"Shim, .005thk"
	* 60B10981038800	"Shim, .010thk"
	* 84A58888000000	O-Ring (For Sta. Output Shaft)
36	80C01938009100	"Mounting Plate (For 3"" Red)"
	80C11145009100	"Mounting Plate (For 3.5"" Red)"
37*	99A44547010000	General Service Manual
38*	99A44547060000	Service Manual-Rd

* Indicates parts supplied with Spare Parts Kit #800RD SPK

1301RD



PARTS LIST FOR 1301RD INDEX DRIVE (STANDARD CONFIGURATION)

<u>ITEM NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>
1	63G29426001004	Housing
2	63D29763014012	"Follower Wheel 12 Hole For 2"" Follower"
	63D29763034016	"Follower Wheel 16 Hole For 1 1/2"" Follower"
	63D29763084008	"Follower Wheel 8 Hole For 1 3/4"" Follower"
	63D29763044010	"Follower Wheel 10 Hole For 2"" Follower"
3	63D11892007002	Input Shaft (W/O Red)
	80D12135007002	"Input Shaft (For 3.5"" Red, 4"" Red)"
	80M17930007002	"Input Shaft (For 5"" Red)"
	80M23011007002	"Input Shaft (For 4""/400-loc Red)"
4	-----	"Cam, (Specify Number Of Stops And " "Index Time, Contact Camco For Assistance, Order In Matched Sets)"
5	63C29429002004	"Cover, Bottom (Standard)"
	63D35820002004	"Cover, Bottom (For Oversize Cam)" Also Requires Risers #63c35897009999
6	54C06285003122	Cart Open Ecc
7	63B29431008700	Gasket Lower Output
8	86J29776010000	Bearing Cone LI758744
9	86J29776020000	Bearing Cup LI758715
10	82C104570800003	"Follower 2"" Dia."
	82C104570700003	"Follower 1 3/4"" Dia."
	82C104570600003	"Follower 1 1/2"" Dia."
11*	95A26005450000	S.S.S. Cup Pt 1/4-20 X 1/2
12*	95A26006210000	S.S.S. Cone Pt 1/4-20 X 1/2
13	95A26010160000	Lockwasher W 16
14	95A26009160000	Locknut Pn-16
15*	86D07328600021	Bearing Cone 566
16*	86D07328600022	Bearing Cup 563
17*	54B06291018800	"Shim, .001thk"
*	54B06291028800	"Shim, .005thk"
*	54B06291038800	"Shim, .010thk"
18*	84D07329510000	Oil Seal C/R 27295
19	95A08116000000	Special Large Hd Socket Scr
20	63C29428009999	Retainer Seal Output (Only For Through Hole)
21	86D07328830022	Bearing Cup 36620
22	86D07328830021	Bearing Cone 36690
23.	95A26010280000	Lockwasher W 28
24	95A26009280000	Locknut Pn-28
25	95A26002150000	H.H.C.S. 5/16-18 X 3/4
26	075K437	Key 3/4 X 4 3/8
27	95A33000020000	Air Vent 1/2-14
28	95A33001020000	Sight Plug 1/2-14
29	63C29430008700	Gasket Bottom Cover
30	63C29427009540	Shaft Output Stationary
31	86A12022009900	Bearing Sleeve (For Stationary Output Shaft Only)
32*	84J29777000000	Oil Seal C/R 1375230
33	63B29433002000	Cover Bottom (Not Required For Through Hole)
34	63B13392009410	Plug Outp 1300rd
35*	63B29737018800	"Shim, .002 Thk"
*	63B29737028800	"Shim, .005 Thk"
*	63B29737038800	"Shim, .010 Thk"
36*	84J29778000000	Oil Seal C/R 52488 (For Through Hole Only)
37	95A33003020000	Magnetic Plug Lisle#5042051
38	80C12492009100	"Mounting Plate (For 3.5"" Red)"
	80C13533009100	"Mounting Plate (For 4"" Red)"
	80L18824009100	"Mounting Plate (For 5"" Red)"
39*	99A44547060000	Service Manual-Rd
40*	99A44547010000	General Service Manual

* Indicates parts supplied with Spare Parts Kit # 1301RD SPK

PARTS LIST FOR 1801RD INDEX DRIVE (STANDARD CONFIGURATION)

<u>ITEM NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>
1	61D62352001002	Housing
2	61D62091004012	"Follower Wheel 12 Hole 2"" Follower "
	61D62092004012	"Follower Wheel 12 Hole 2.5"" Follower "
	61D62093004012	"Follower Wheel 12 Hole 3"" Follower "
	61D62094004016	"Follower Wheel 16 Hole 1.75"" Follower "
	61D62095004016	"Follower Wheel 16 Hole 2"" Follower "
	61D62096004016	"Follower Wheel 16 Hole 2.5"" Follower "
	61D63038004010	"Follower Wheel 10 Hole 2.5"" Follower "
3	61D62098007002	Input Shaft (W/O Reducer)
	80D62166007002	"Input Shaft (For 5"" Red)"
	80D62324007002	"Input Shaft (For 5"" Red/500-loc)"
	80D62163007002	"Input Shaft (For 6"" Red, 7"" Red)"
	80D62325007002	"Input Shaft (For 6"" Red/600-loc)"
4	-----	"Cam, (Specify Number Of Stops And " "Index Time, Contact Camco For Assistance, Order In Matched Sets)"
5	61D62047002002	Cover Bottom
6	61C62062003002	Cart Inp
7*	84B60170040000	O-Ring 2-254
8	86D07328950021	Bearing Cone L860049
9	86D07328950022	Bearing Cup L860010
10	82C10457070003	"Follower 1.75"" Dia. "
	82C10457080003	"Follower 2"" Dia. "
	82J12002000003	"Follower 2.5"" Dia. "
	82C10457009003	"Follower 3"" Dia. "
11*	95A26005470000	Sss Cup 1/4-20-3/4
12*	95A26006230000	Sss Cone Pt. 1/4-20x3/4
13	95A26009190000	Locknut Pn-19
14	95A41521190000	Lockwasher (Wh Series)
15*	86D07328590021	Bearing Cone Jm714249
16*	86D07328590022	Bearing Cup Jm714210
17*	54B06291018800	Shim .002 Thk Inp
*	54B06291028800	Shim .005 Thk Inp
*	54B06291038800	Shim .010 Thk Inp
18*	84D07329630000	Oil Seal C/R 29260
19	95A26000720000	S.H.C.S. 3/8-16 X 1 1/4
20*	84B60170050000	O-Ring 2-276
*	84B60170060000	O-Ring 2-439 Buna N (For Stationary Center Post)
21	86D07328900022	Bearing Cup 543114
22	86D07328900021	Bearing Cone 543085
23	95A26010510000	Lockwasher W-40
24	95A26009510000	Whittig-Higgins Locknut#Pn-40
25	95A26002150000	H.H.C.S. 5/16-18 X 3/4
26	087K700	Key .875 Sw X 7.00
27	95A33000020000	Air Vent 1/2-14 N.P.T.
28	95A33001020000	Sight Plug 1/2-14 N.P.T.
29	-----	Not Used on 1801RD
30	61D62109000000	Shaft Stationary (Option)
31	86A62114000000	Bearing Bronze (For Stationary Output Only)
32*	84D07329930000	Oil Seal C/R 1450542
33	61B62049002002	Cover Mach Center
34	61C62052000000	Plug Output

PARTS LIST FOR 1801RD INDEX DRIVE (STANDARD CONFIGURATION)

<u>ITEM NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>
35*	61B62288038800	Shim Outp .002 Tk
*	61B62288028800	Shim Outp .005 Tk
*	61B62288018800	Shim Outp .010 Tk
36*	84D07329820000	Oil Seal Cr-76215 (For Through Hole Only)
37	95A33003020000	Magnetic Plug Lisle#5042051
38	61C62045002002	Cover Mach Front 1801rd
39	95A26002160000	Hhcs .312-18 X .88
40	61D62022008001	Shaft Outp Se
	61D63039008001	Shaft Outp Se (For 10 Hole Follower Wheel)
41	80D62172009100	"Mounting Plate (For 6" Red)"
	80D62170009100	"Mounting Plate (For 5" Red Mtg A)"
	80D62171009100	"Mounting Plate (For 5" Red Mtg B&C)"
	80C62178009100	"Mounting Plate (For 7" Red)"
42*	99A44547060000	Service Manual-Rd
43*	99A44547010000	General Service Manual

* Indicates parts supplied with Spare Parts Kit #1801RD SPK



A **DOVER** COMPANY

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