MORSE MARINE PRODUCTS

OWNER'S MANUAL

INSTALLATION, OPERATION AND MAINTENANCE INSTRUCTIONS

FOR THE

COMMAND 2 STEERING SYSTEM

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COMMAND 2 STEERING SYSTEM

INSTALLATION AND MAINTENANCE INSTRUCTIONS

D300376 SYSTEM
D300376 HELM

For Use With Inboards Outboards and Inboard/Outdrives

These instructions, when used with the appropriate Transom Connection Kit instructions, provide complete information for installing, adjusting and maintaining a **Morse Command 2 Steering System.**

The **Morse Command 2 Steering System** is designed to mount the wheel in any one of three positions; parallel to dash, 10 degrees from parallel, and 20 degrees from parallel by using one of the bezel kits; 90 degrees, 10 degrees, or 20 degrees. An adjustable Friction Brake allows the system to neutralize engine and propeller torque feedback.

1.0 EQUIPMENT REQUIRED

1.1 Command 2 Helm Assembly
1.2 Bezel Kit-90 degrees, 10 degrees, or 20 degrees
1.3 Steering Wheel (see catalog)
1.4 Command 2 Drive & Cable Assembly
A. Red Jaket all stainless steel core (A300624)
B. Black Jaket galvanized steel core (A300623)
1.5 Appropriate Steering Connection Kit (see catalog).

2.0 DETERMINING CABLE LENGTH AND PATH

2.1 Select a path that will be as free as possible from obstructions such as seat backs, ribs, deck, etc. When such an obstruction is in the path, drill a 1-1/4" hole and run the cable through the obstruction, if possible.

2.2 The cable should be run to minimize as much as possible any changes in direction. Most efficient operation is realized when the cable has a minimum number of bends. **THE CABLE SHOULD NEVER BE BENT TO A RADIUS OF LESS THAN FIVE INCHES.**

2.3 After determining the cable path, measure the length of cable needed from the center line of the helm assembly to the mounting hole in the tiller arm, or where the cable terminal attaches to the transom connection kit. See Figure 2.

2.4 Calculate the length of cable needed by using the formula below A+B+C-(4) for each 90 degrees bend = approximate length as per Figure 1.

NOTE: CABLES ARE AVAILABLE IN 1 FT. INCREMENTS ONLY. IF THE MEASUREMENT COMES OUT IN FEET PLUS INCHES, ORDER THE NEXT LONGER LENGTH OF CABLE. (EXAMPLE: IF MEASUREMENT IS 15'4", A 16" CABLE IS REQUIRED.)

2.5 The Drive And Cable Assembly is measured from the center of the Drive Units to the hole in the Cable Ram when cable is in mid position.

3.0 INSTALL CABLE

3.1 Run cable along selected path, by threading Cable Ram End from the Helm position towards the transom.

3.2 Locate the desired exit of the cable from the Rotary Unit. With the cable path traveling along the right side of the boat, the push for right turn action would be achieved by having the cable leaving the rotary unit at the top right corner. For a pull for right turn action, the cable would leave the rotary unit at the bottom right corner. See Figure 3.

3.3 When installing the Command 2 unit with OMC stern drives, the cable must be run along the selected path thru the transom toward the helm and then attached to the rotary drive unit.

3.4 Attach cable to rotary drive unit as shown in Figure 4 by placing cable core in groove in rotor; secure with anchor and two screws. Screws must be torqued to 50-60 inch lbs. Assemble Rotary Drive Unit, as shown in Figure 4, by placing Core Ring **A** over Rotor **B.** Insert in Housing as shown in C. Insert Bearing with tongue out, and place over Plate.

4.0 INSTALL HELM MOUNTING ASSEMBLY

4.1 When installing the Steering System, as with all marine equipment, apply a light coating of good quality marine grease to all threads and mating surfaces for maximum corrosion protection.

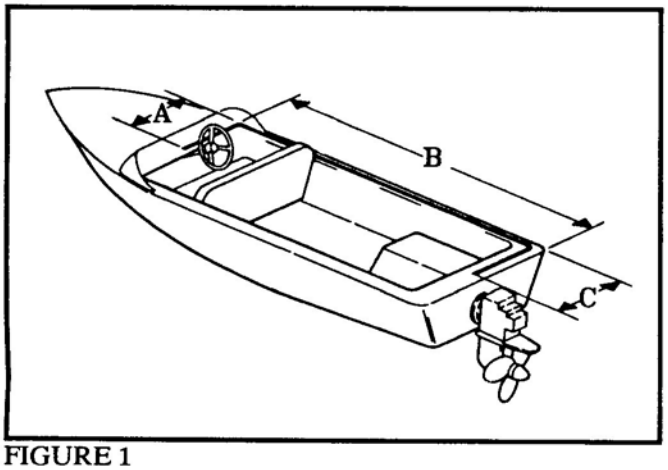


FIGURE 1

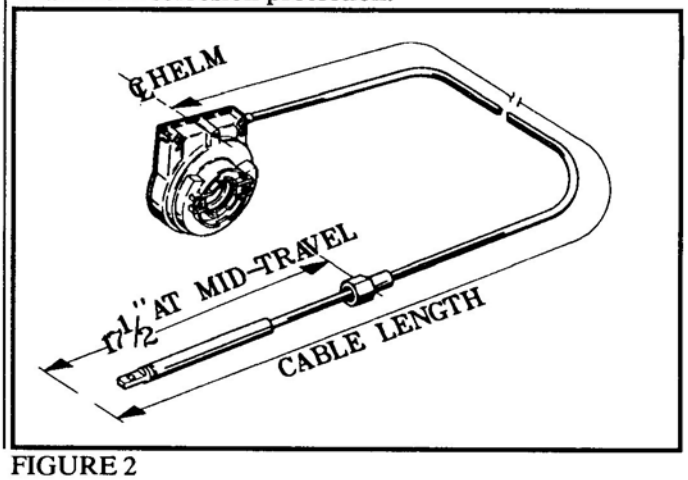


FIGURE 2

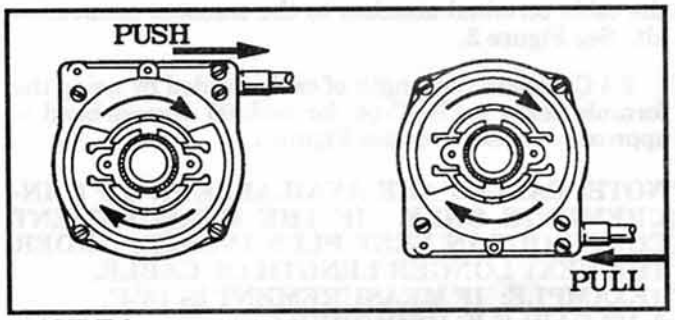


FIGURE 3

4.2 Allow for clearance behind mounting surface. Refer to Figures 5 & 6 for dimensions. Determine mounting location of Helm. Be sure to allow for required cable assembly of cable to Helm and for wheel.

4.3 Locate mounting template (supplied with Bezel Kit) at the desired position with the top hole at the top position and tape in place. Drill the three 9/32 dia. holes perpendicular to the face of the dash. Cut or drill the 2-1/4 dia. hole accurately to size as this hole is the "register" for the Helm.

4.4 Insert Helm Assembly through cutout in dash. Attach Helm Mounting Ring (14). Note that serrations are engaged and secure with Bolts (15) and Lock Nuts (12) and special Flat Washers (13). Torque Lock Nuts to 25-30 in. lb.

4.5 Thread Brake Screw (8) into Square Nut loosely. Place Trim Bezel 22, 23 or 24 over shaft with clear window at the top and the slot at the bottom in line with the Brake Screw and snap over the two pins on the Mounting Ring (14)

4.6 Place Woodruff Key (17) in key slot of Shaft, place wheel on Shaft, thread on Nut (26) and tighten to 25-30 ft. lbs.

5.0 FINAL CHECK AND ADJUSTMENT

5.1 Loosen Brake Knob and turn wheel from side to side several times. The wheel should operate smoothly and easily, with uniform pressure. If excessive pressure is required check for: (a) cable bends of less than recommended 5" radius (b) cable hangers or supports distorting cable. (c) outdrive or outboard tilted all the way up (should be lowered to operating position). (d) rudder (inboard), outboard, or outdrive (inboard-outdrive) not free to turn. (e) turn the wheel and observe the travel of the cable to determine if the direction of wheel movement results in correct rudder action. (f) hand adjust brake knob for proper feel. (g) to prevent cable damage, be sure that the rudder and outboard stops coincide with the cable travel.

NOTE: DO NOT UNSCREW BRAKE KNOB ALL THE WAY OUT. MAKE SURE ALL NUTS, BOLTS, AND SCREWS ARE TIGHT.

6.0 MAINTENANCE

6.1 A small amount of a good quality grease applied occasionally to the Cable Terminal Assembly, Cable Ram and the moving parts of the Transom Connection Kit will ensure free movement.

6.2 **DO NOT** paint or varnish the end fittings of the cable.

NOTE: AFTER TWO (2) HOURS RUNNING RECHECK ALL NUTS, BOLTS, AND SCREWS AND RETIGHTEN AS NECES- SARY. PERIODICALLY RECHECK ALL NUTS, BOLTS AND SCREWS FOR TIGHTNESS.

6.3 To REMOVE THE TRIM BEZEL, first remove wheel and Woodruff Key and Brake Knob. Then grasp Bezel with both hands and turn sharply while pulling away from dashboard. To replace Bezel, see paragraph 4.5.

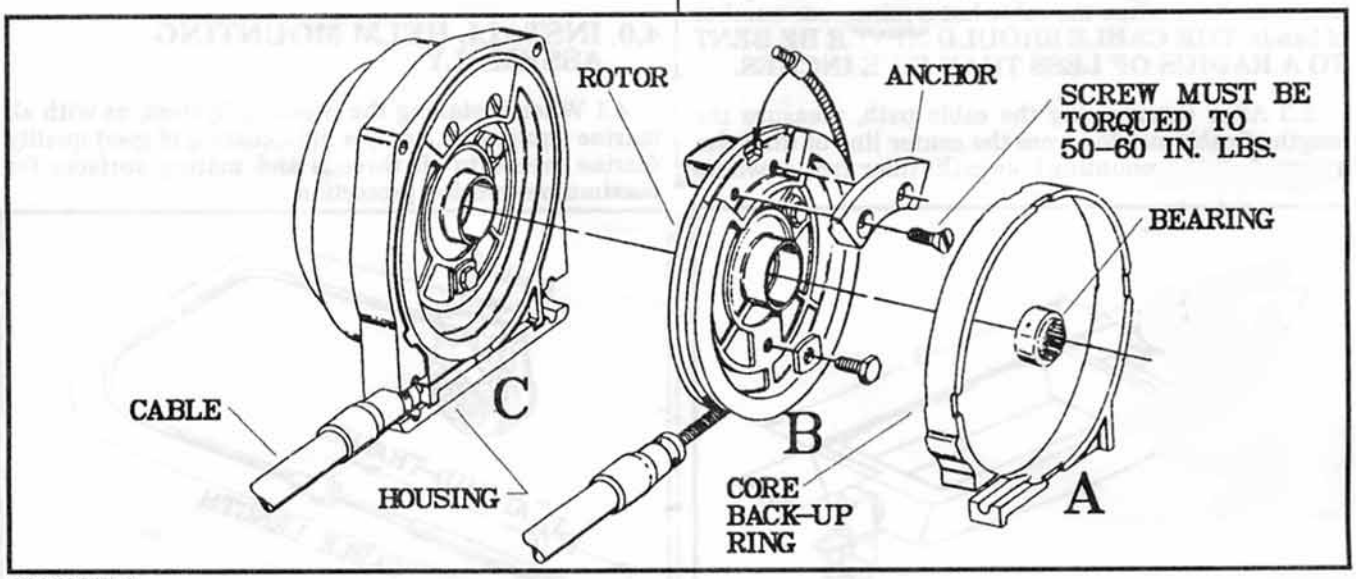
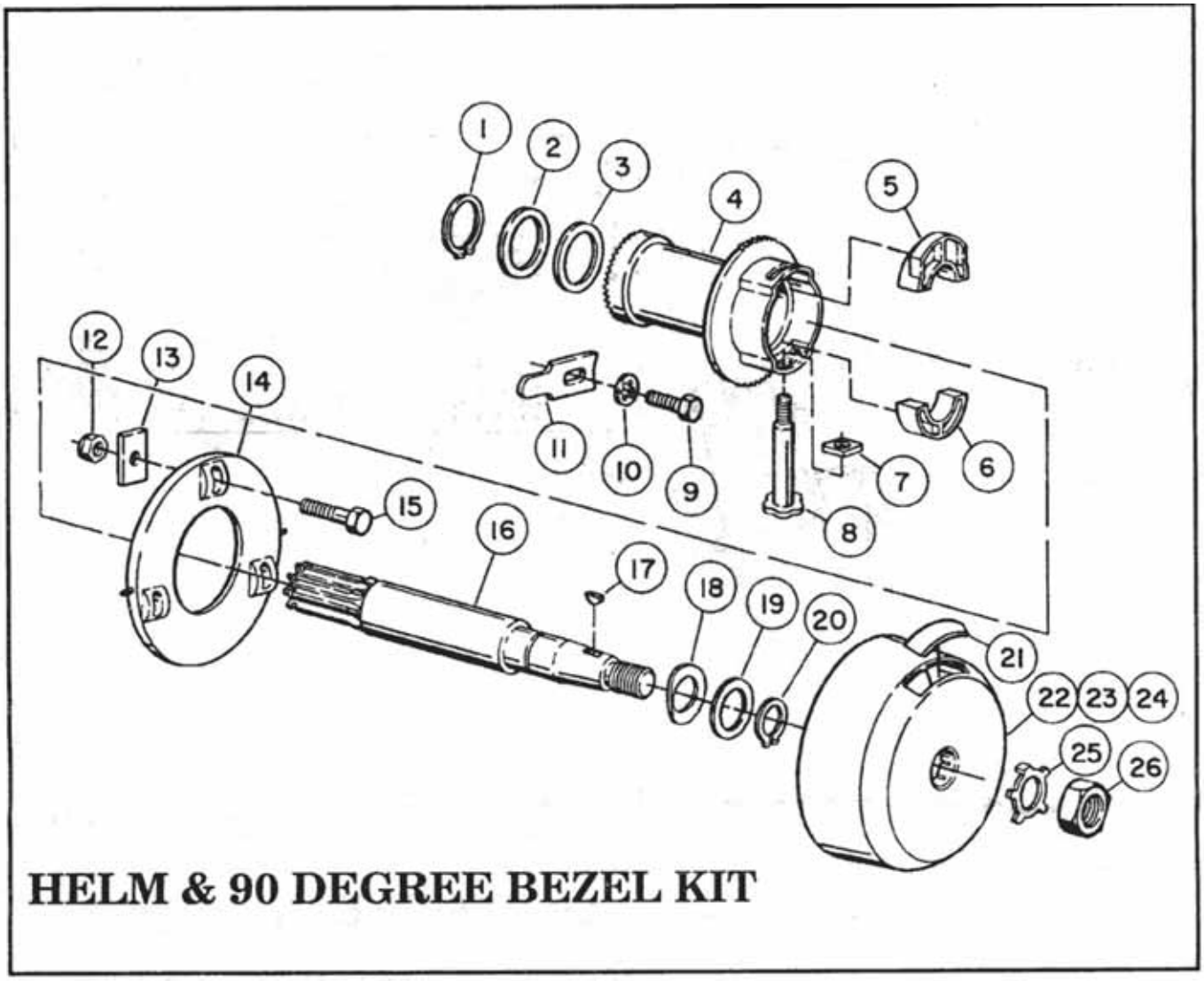


FIGURE 4



HELM & 90 DEGREE BEZEL KIT

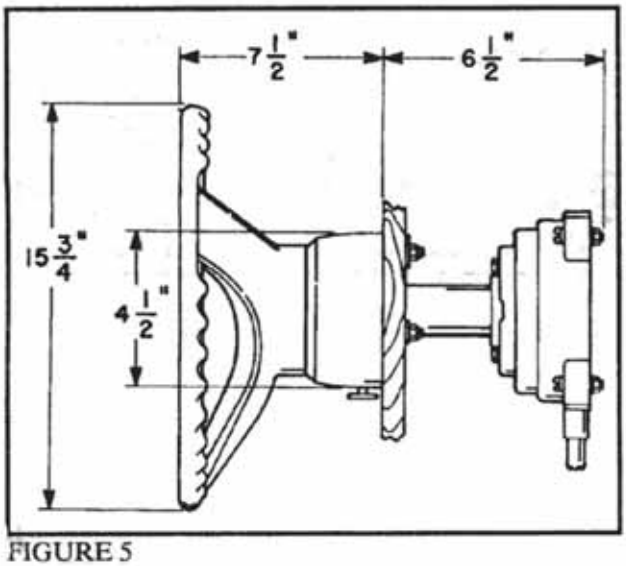
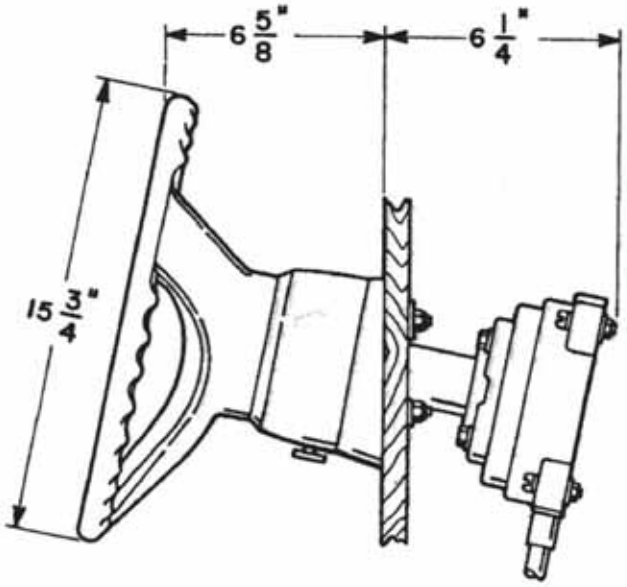


FIGURE 5

HELM & 90° BEZEL KIT

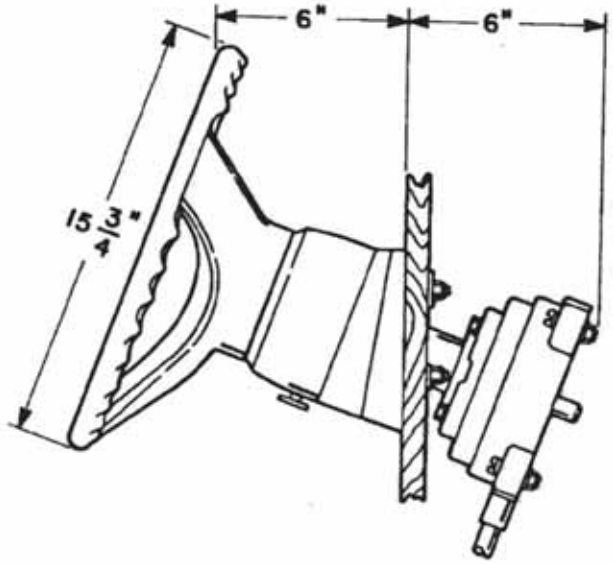
ITEM	Black A300519 DESCRIPTION Chrome A300605	NO. REQ'D	PART NO.
1	Retaining Ring, 1" nominal	1	A51302-246
2	Washer, Shaft	1	A61841
3	Washer, Thrust	1	A43021-1
4	Shaft Support	1	D300254
5	Bearing, Wheel	1	B300241
6	Bearing, Friction	1	B300242
7	Nut, Square Jam 5/16-24	1	A300373
8	Brake Screw	1	B300243
9	Screw, Hex Hd. 1/4-20 UNC x 3/4 Lg.	2	A50406-854
10	Lock Washer, Int. Tooth 1/4	2	A50803-077
11	Retainer, Drive Unit	2	A61840
12	Nut, Hex Elastic Stop 1/4-28	3	A50908-066
13	Washer, Special Flat	3	A68101
14	Ring, Helm Mounting	1	D300251
15	Screw, Hex Hd. Mach. 1/4-28 x 1/2 Lg.	3	A300937-1
16	Pinion Shaft	1	B300240
17	Woodruff Key #605 3/16 x 5/8	1	A52600-032
18	Washer, Bowed	1	A31127
19	Washer, Flat	1	A47972
20	Retaining Ring, 3/4 nominal	1	A51302-198
21	Window	1	B300246
22	Bezel, Black	1	B300248-3
23	Bezel, White	-	D300248-2
24	Bezel, Chrome	-	D300248-1
26	Nut, 5/8-18 Fin. Hex w/Torque Patch	1	A50904-1

10 DEGREE BEZEL KIT



10° BEZEL KIT			
ITEM	Black A300519 Chrome A300605 DESCRIPTION	NO. REQ'D	PART NO.
1	Nut, Hex Elastic Stop 1/4-28	3	A50908-066
2	Washer, Special Flat	3	A68101
3	Ring, Helm Mounting	1	D300257
4	Woodruff Key #605 3/16 x 5/8	1	A52600-032
5	Bezel, Black	1	D300248-3
	Bezel, White	-	D300248-2
	Bezel, Chrome	-	D300248-1
6	Window	1	B300246
7	Screw, Hex H. Mach 1/4-28 x 3 Lg.	3	A300937-2
8	Wedge, 10° Black	1	D300537-3
	Wedge, 10° White	-	D300537-2
	Wedge, 10° Chrome	1	D300537-1
9	Brake Screw	2	B300243
10	Nut, Square Jam	1	A300373
11	Nut, 5/8-18 Fin. Hex. w/Torque Patch	1	A300987

20 DEGREE BEZEL KIT



20° BEZEL KIT			
ITEM	Black A300470 Chrome A300607 DESCRIPTION	NO. REQ'D	PART NO.
1	Nut, Hex Elastic Stop 1/4-28	3	A50908-066
2	Washer, Special Flat	3	A68101
3	Ring, Helm Mounting	1	D300251
4	Woodruff Key #605 3/16 x 5/8	1	A52600-032
5	Bezel, Black	1	D300248-3
	Bezel, White	-	D300248-2
	Bezel, Chrome	1	D300248-1
6	Window	1	B300246
7	Screw, Hex Hd. Mach 1/4-28 x 3 Lg.	1	A300937-2
8	Screw, Hex Hd. Mach 1/4-28 x 4 Lg.	2	A300937-3
9	Wedge, 10° Black	2	D300537-3
	Wedge, 10° White	-	D300537-2
	Wedge, 10° Chrome	-	D300537-1
10	Brake Screw	1	B300243
11	Nut, Square Jam	1	A300373
12	Nut, 5/8-18 Fin. Hex w/Torque Patch	1	A300987

FIGURE 6

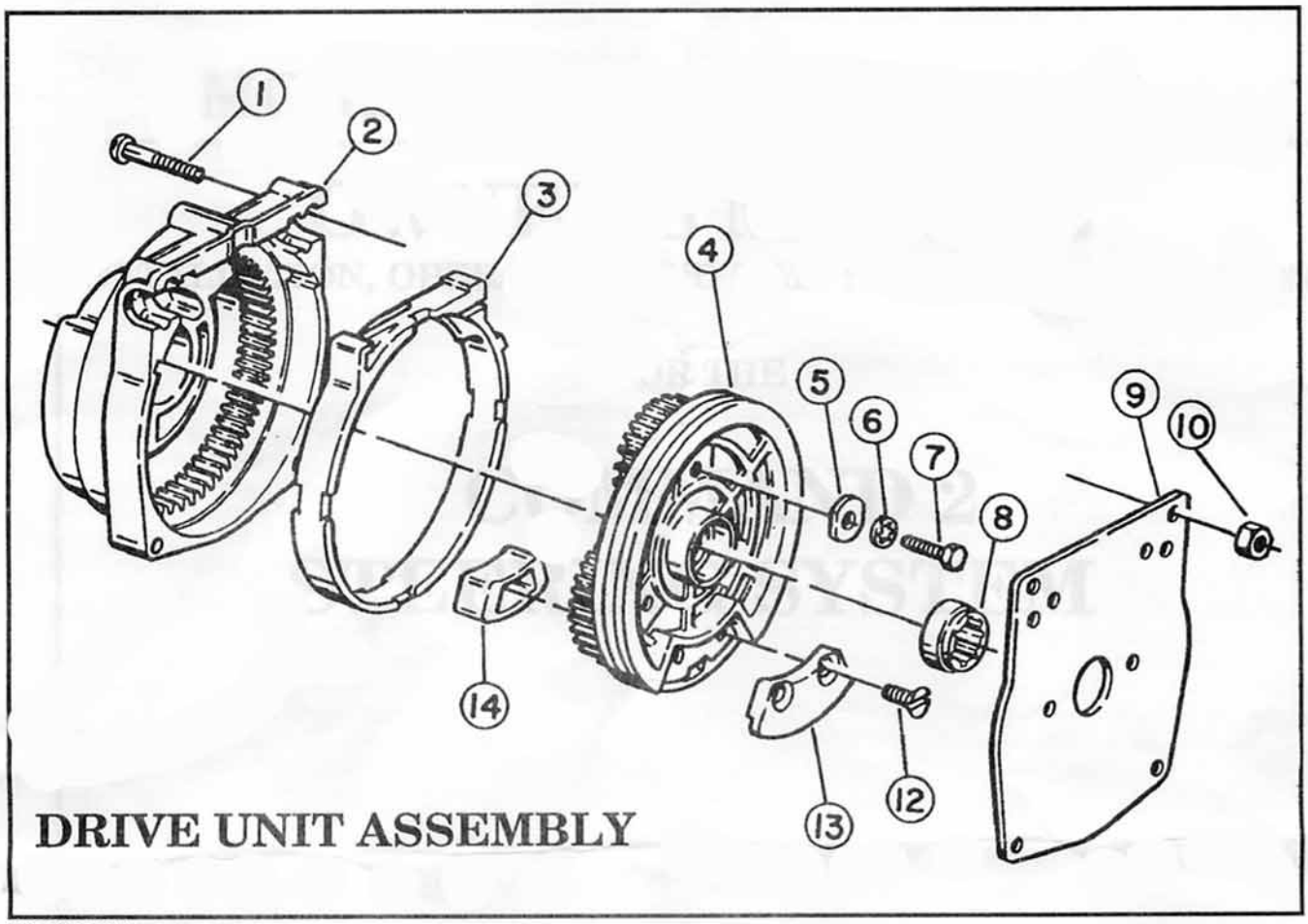


FIGURE 7

DRIVE UNIT ASSEMBLY

ITEM	DESCRIPTION	NO. REQ'D	PART NO.
1	Screw, Rd. Hd. 1/4-28 UNF x 1-1/4 Lg.	5	A50146-601
2	Housing	1	E48445
3	Ring, Core Back up	1	D47535
4	Rotor Assembly	1	C67816
5	Washer, Special	3	A67815
6	Lock Washer, Int. Tooth, 5/16	3	A50803-086
7	Screw, Hex Hd. 5/16-18 UNC x 1/2 Lg.	3	A50407-226
8	Bearing, Pinion	1	A48474
9	Cover Plate	1	B48476
10	Nut, Hex 1/4-28 UNF Elastic Stop	5	A50908-066
11	Screw, Flat Hd. 1/4-20 UNC x 5/8 Lg.	2	A50414-013
12	Anchor, Cable	1	D67784
13	Bumper	1	A60194