

MORSE MARINE PRODUCTS INSTRUCTION SHEET

COMMAND 290 STEERING SYSTEM

BEZEL KITS 90 DEGREE

(P/N 292521 BLACK)

20 DEGREE

(P/N 293090 BLACK)

INSTALLATION AND MAINTENANCE INSTRUCTIONS

The *Morse Command 290 Steering System* is designed to mount the wheel parallel to the dash, or 20 degrees from parallel by using one of the *Bezel Kits* - 20 degree or 90 degree.

Throughout the text, part names are followed by a number in parentheses. Refer to the **Parts Breakdown** on the last page for visual identification.

INSTALL HELM ASSEMBLY

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.

2. Refer to Figures 1, 4 and 5 for mounting dimensions.

3. Locate the full-size mounting template (supplied with the *Bezel Kit*) at the desired location with the top hole at the top position and tape in place. Drill the three each 11/32" diameter holes perpendicular to the face of the dash. Then cut or drill the 3.00" diameter center hole. See Figure 3 for a reduced view of the template. Locate the *Mounting Bracket* (#1 or #8) on the dash and secure with the *Bolts* (#2), *Washers* (#3) and *Lock Nuts* (#4) supplied. Torque the *Lock Nuts* to 50 in.lbs.

4. The *Helm Assembly* can be rotated on the *Mounting Bracket* to accommodate Cable entry. The best position for the *Drive Unit* is where the Cable can be installed with a minimum amount of bending. Figure 3 shows the Cable End positions for either PUSH or PULL for right turn operation. The *Drive Assembly* is adjustable in 45 degree increments from the top right or the top left cable entry positions.

5. Insert the *Helm* through the cutout in the dash. Attach the *Helm* to the *Mounting Bracket* (#1 or #8) and secure with the *Bolts* (#5) provided. Torque the *Bolts* to 25-30 in.lbs.

6. Place the *Trim Bezel* (#7 or #9) over the Shaft with the word "MORSE" pointing upwards, and snap in place over the three lugs on the *Mounting Bracket* (#1 or #8).

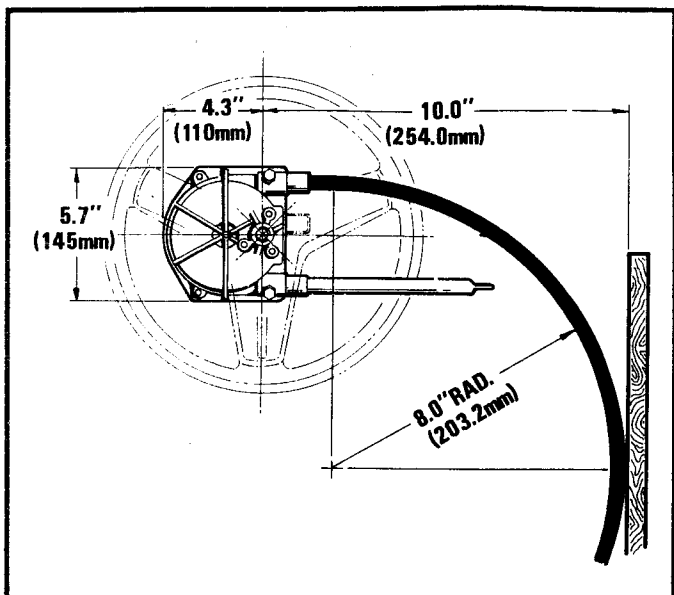


FIGURE 1

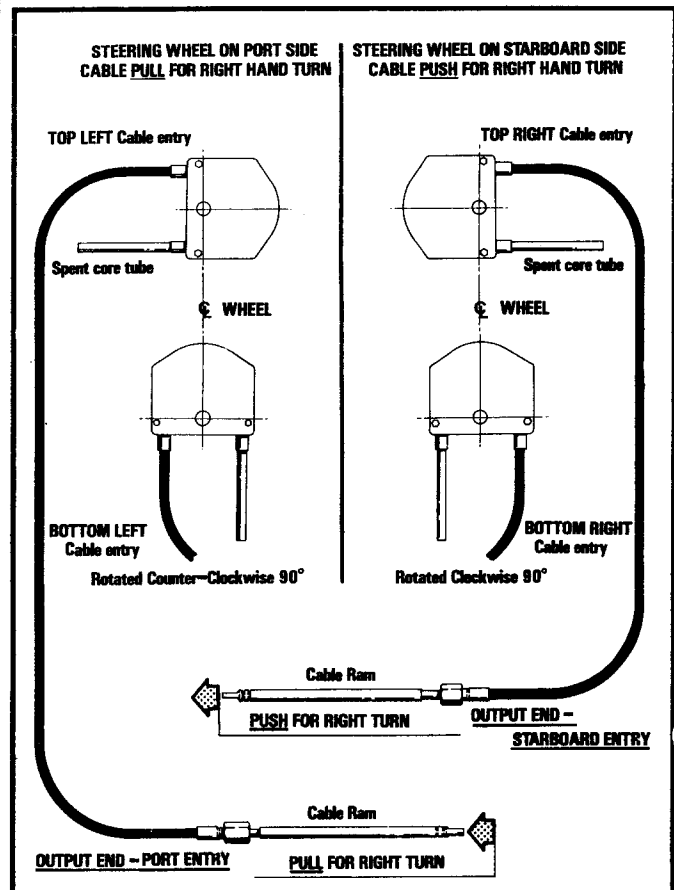


FIGURE 2

55001-503A March 1989

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NOTE: ALL SPECIFICATIONS AND FEATURES ARE SUBJECT TO CHANGE WITHOUT NOTICE.

7. Place the *Key* (#6) into the slot on the *Steering Shaft* as shown in the *Parts Breakdown*. Align the *Key* (#6) with the keyway in the steering wheel and slide the steering wheel onto the Shaft.

8. Install the *Washer* (#10) and the *Nut* (#11) and tighten to 25-30 in.lbs.

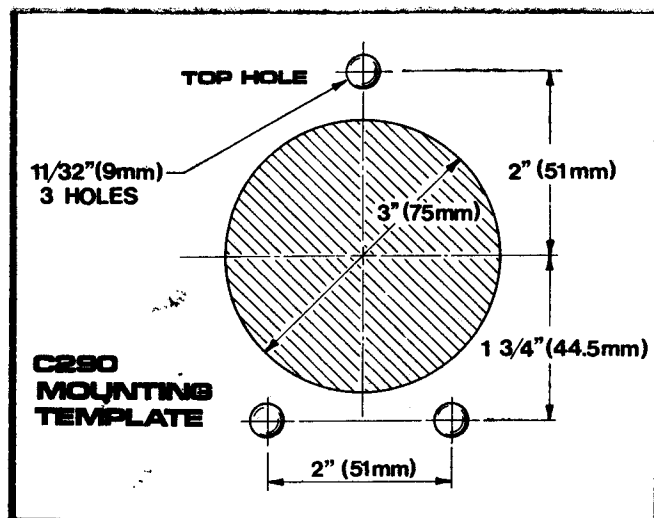


FIGURE 3

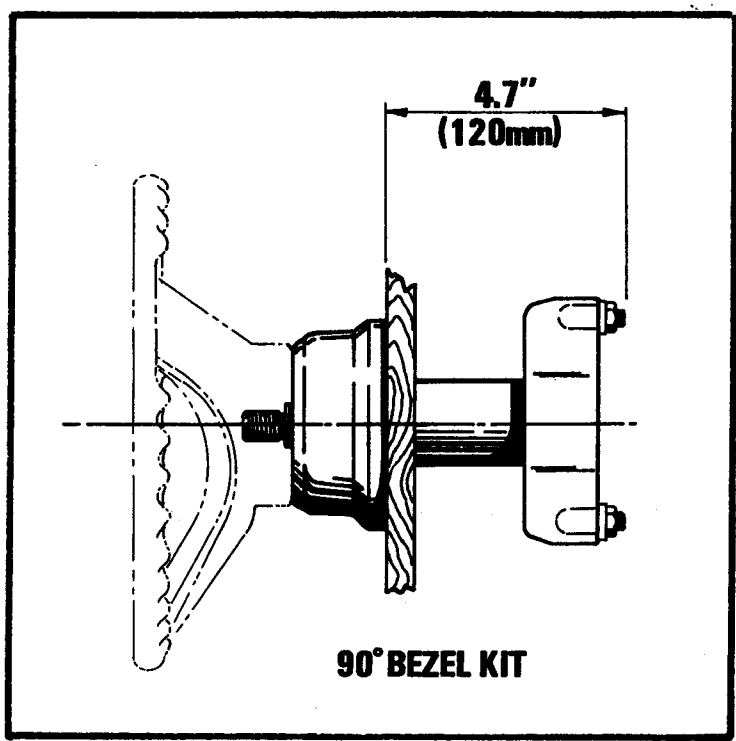


FIGURE 4

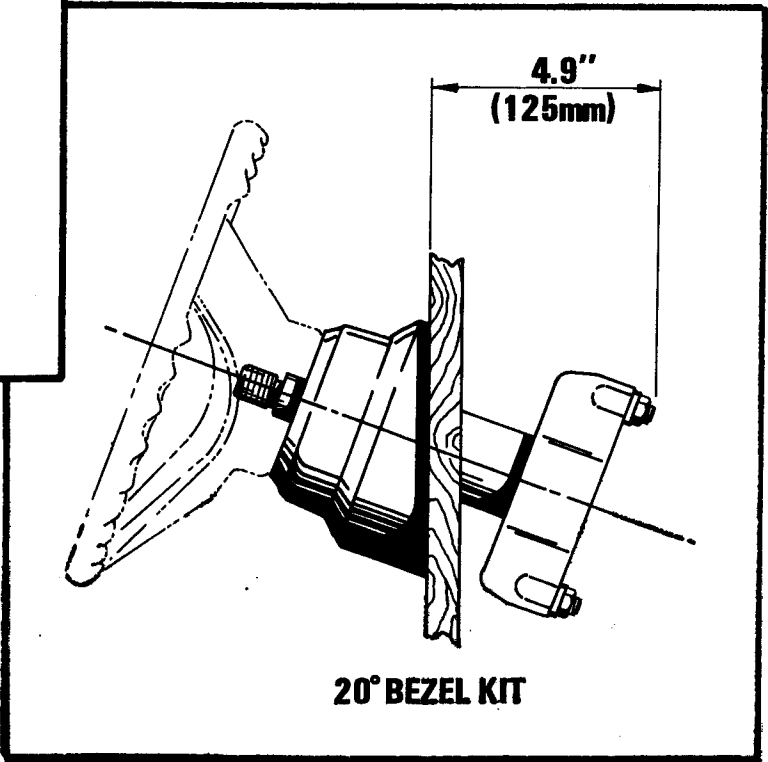
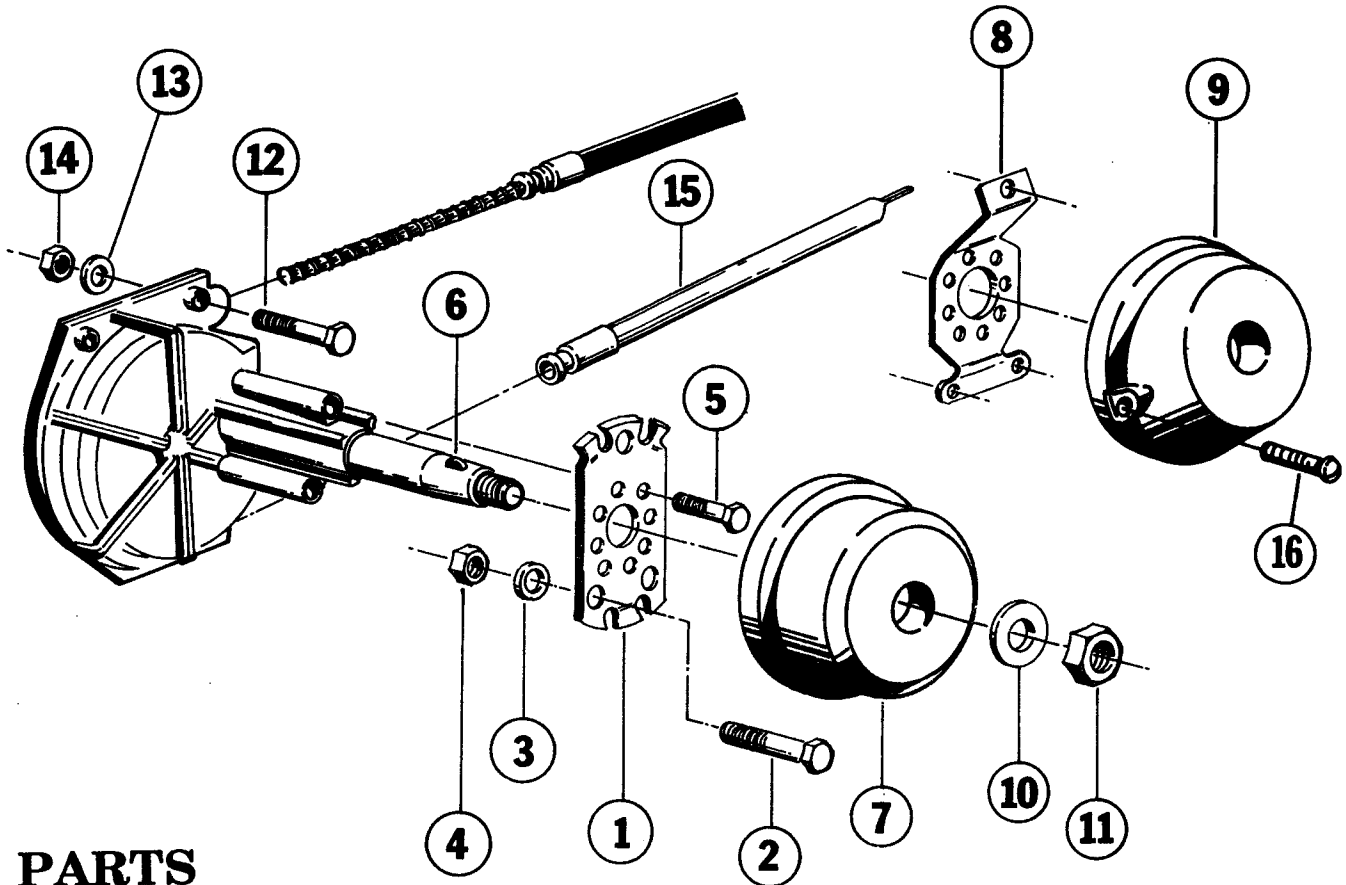


FIGURE 5



PARTS BREAKDOWN

HELM ASSEMBLY PART NUMBER 292525

ITEM NO.	DESCRIPTION	REQ'D	PART NUMBER
6	KEY	1	52600-047
10	WASHER, SST	1	50800-124
11	NUT, ESNA 5/8-18	1	50908-416
12	BOLT, 1/4-20 x 1-1/2	2	50406-889
13	WASHER, 1/4 SAE	2	50800-068
14	NUT, ESNA 1/4-20	2	50908-056
15	SPENT CORE TUBE	1	301098

90 DEGREE BEZEL KIT PART NUMBER 292521

ITEM NO.	DESCRIPTION	REQ'D	PART NUMBER
1	BRACKET	1	292509
2	SCREW, 5/16-18x1-1/2	3	50407-282
3	WASHER, 5/16 SAE	3	50802-077
4	NUT, ESNA 5/16-18	3	50908-075
5	SCREW, 1/2-20 x 5/8	3	50414-024
7	TRIM	1	292512

20 DEGREE BEZEL KIT PART NUMBER 293090

ITEM NO.	DESCRIPTION	REQ'D	PART NUMBER
8	BRACKET	1	305234
2	SCREW, 5/16-18x1-1/2	3	50407-282
3	WASHER, 5/16 SAE	3	50802-077
4	NUT, ESNA 5/16-18	3	50908-075
5	SCREW, 1/2-20 x 5/8	3	50414-024
9	TRIM	1	293017
16	SCREW, #10 PHILLIPS	2	50589-154



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Morse Controls Instruction Sheet

PART NUMBER 300616 (TALL BRACKET)
PART NUMBER 300617 (SHORT BRACKET)
STEERING CONNECTION KIT
FOR
INBOARD RUDDERS
USE WITH MORSE STEERING CABLES
300619, 300620, 300621 & 300622

1.0 PREPARE CABLE END

- 1.1 Remove the Plastic Sleeve from the Cable Ram and grease the Ram with a good quality marine grease such as "LUBRIPLATE MARINE LUBE A".
- 1.2 Slide the Cable Sleeve over the Ram and thread the Coupling Nut onto the Sleeve. Hold the Sleeve to prevent it from turning and tighten the Coupling Nut to 100 to 120 inch pounds.
- 1.3 Attach the Swivel to the cross hole in the end of the Cable Ram using the bolt and nut provided, as shown in Figure 1. Torque the Nut to 50 inch pounds and then back it off 1/4 turn.

IMPORTANT: THE SWIVEL MUST BE FREE TO PIVOT ON THE END OF THE CABLE RAM.

2.0 ASSEMBLE THE TRANSOM BRACKET

- 2.1 Place the two halves of the Swivel Ball over the Cable Sleeve. The Swivel Ball should be centered in the 9th groove from the Coupling Nut end of the Cable Sleeve or 15 inches from the Steering Arm centerline, as shown in Figure 2.

NOTE: IF THE TRANSOM BRACKET CANNOT BE MOUNTED AT THE 15 INCH RECOMMENDED DIMENSION, THE SWIVEL BALL CAN BE MOVED IN EITHER DIRECTION ON THE CABLE SLEEVE IN INCREMENTS OF 1/4 INCH (GROOVE SPACING) TO ACCOMODATE THE MOUNTING SURFACE. THE MAXIMUM MID-TRAVEL DIMENSION OF THE SWIVEL BALL IS 16-1/2 INCHES FROM THE STEERING ARM CENTERLINE.

- 2.2 Place the Transom Brackets over the Swivel ball and secure with the screws, lockwashers and nuts provided.

3.0 ATTACH SWIVEL TO STEERING ARM

- 3.1 Grease the Bushing and insert it into the hole in the Swivel. Assemble the bolt, flatwashers and nuts as shown in Figure 1.
- 3.2 Place the Bushing into the hole in the Steering Arm. Place the bolt thru the Steering Arm and install the flatwasher and locknut, as shown. Torque the locknut to 150 inch pounds. If the hole in the Steering Arm is 3/8" diameter, the Bushing will not be needed and can be discarded.

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4.0 INSTALL THE TRANSOM MOUNT

4.1 Set the Steering Arm in the STRAIGHT AHEAD position and set the Steering Cable Ram at 6-1/8 inches Mid-Travel dimension, as shown in Figure 2. This will locate the Transom Bracket the proper distance from the Steering Arm.

4.2 Position the Transom Bracket so that the Cable Ram is in good alignment with the Steering Arm and drill four each 5/16" diameter mounting holes.

4.3 Install the screws, flat-washers and nuts provided.

5.0 FINAL CHECK

5.1 After installation of the Steering Kit, turn the wheel to FULL TRAVEL in both directions. The Steering Arm should travel approximately 4-1/4 inches either side of the center position when the Cable is properly installed. If adjustment is necessary, relocate the Swivel Ball on the Cable Sleeve.

5.2 If the Rudder Arm is equipped with adjustable stops, set the stops so they coincide with the stops in the Helm Unit.

5.3 For added protection against corrosion, periodically wash all parts with fresh water and apply a light coat of a good quality Marine grease to all exposed metal parts.

NOTE: AFTER A FEW HOURS RUNNING TIME, RE-CHECK ALL BOLTS, NUTS AND FASTENERS FOR TIGHTNESS. EXAMINE ALL STEERING PARTS AT LEAST TWICE A YEAR (MORE OFTEN IN SALT WATER AREAS) FOR CORROSION. TO INSURE PROPER OPERATION AND MAXIMUM SAFETY, REPLACE ANY AND ALL WORN AND/OR CORRODED PARTS.

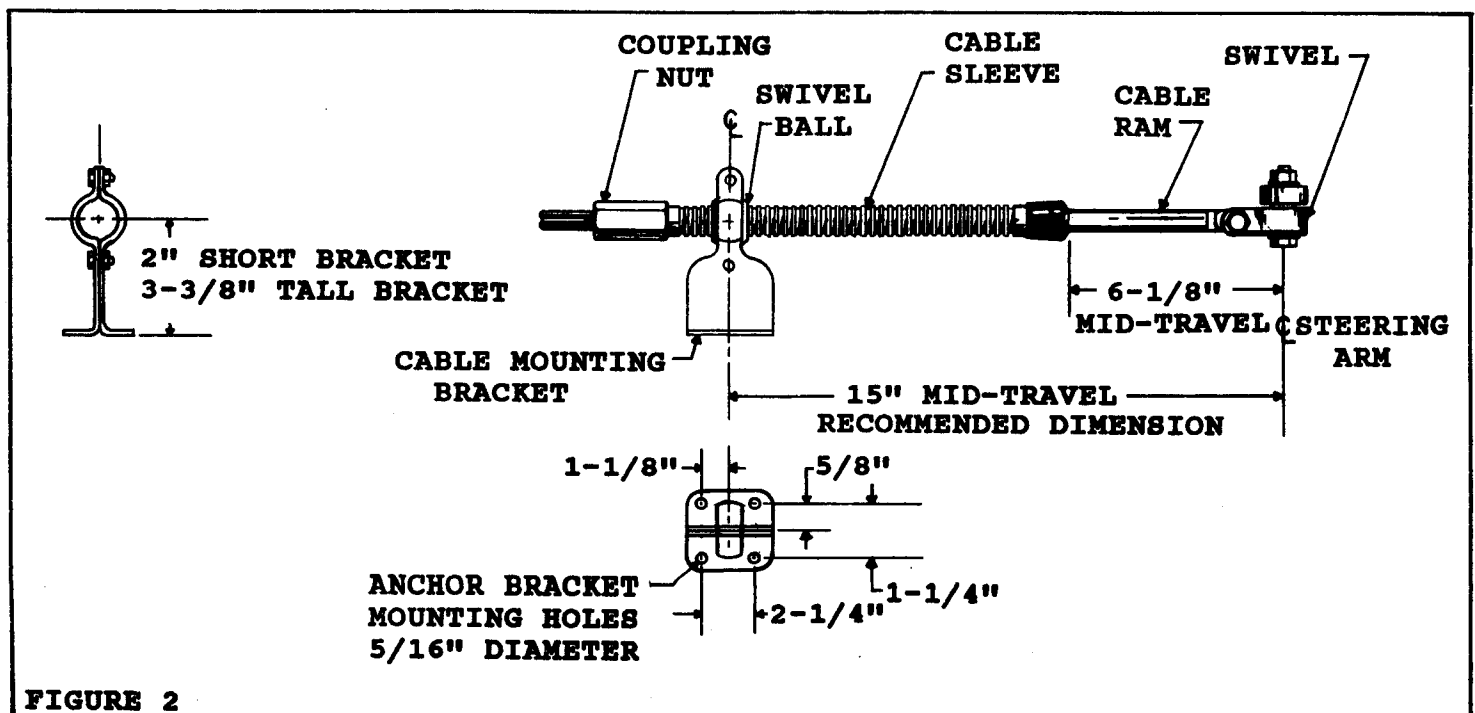


FIGURE 2

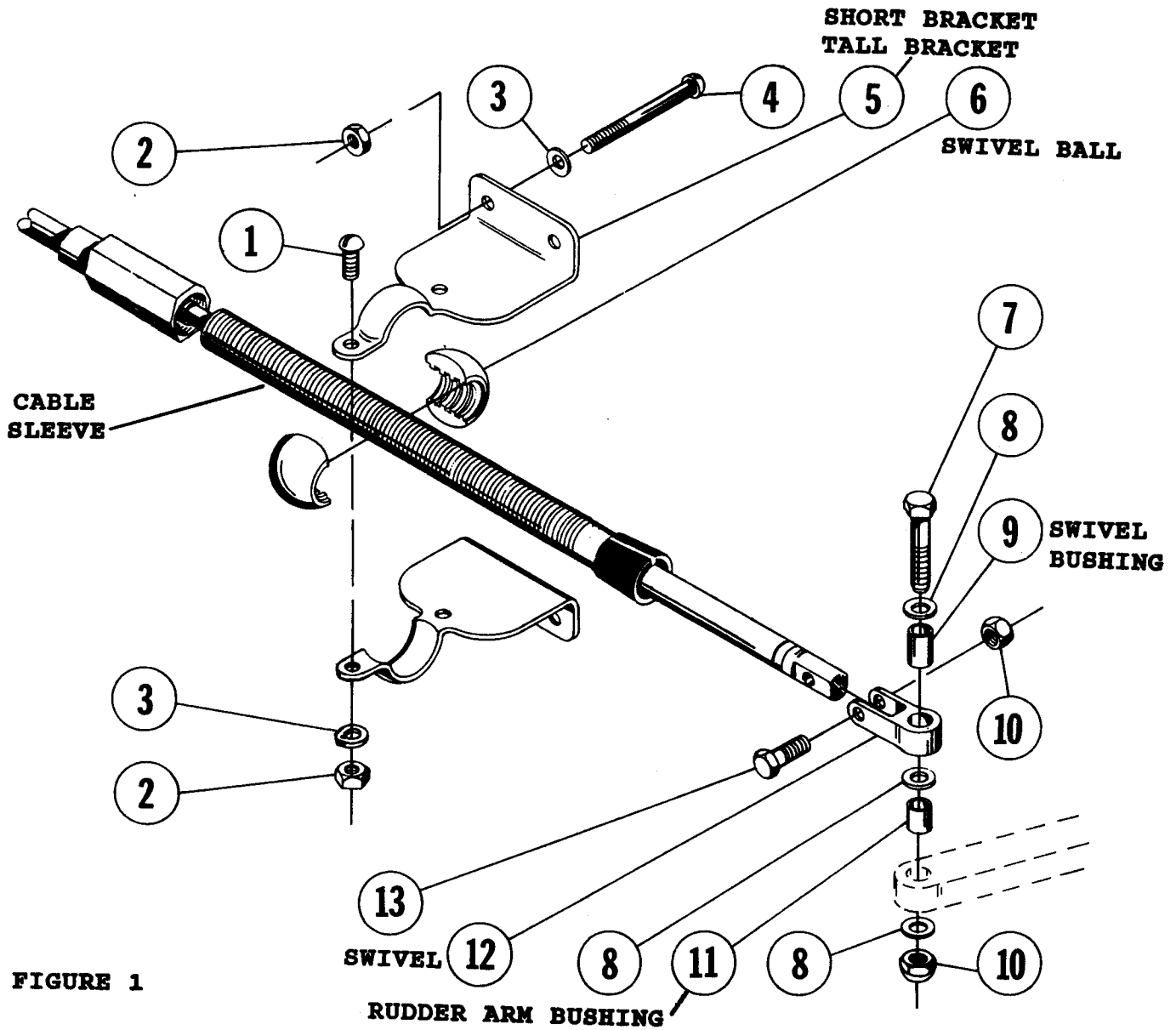


FIGURE 1

ITEM NO.	DESCRIPTION	NUMBER REQ'D	PART NUMBER
1	SCREW, HEX HEAD CAP 5/16-18 x 3/4" LONG	2	COMMERCIAL
2	NUT, HEX ELASTIC STOP 5/16-18	6	COMMERCIAL
3	WASHER, FLAT 5/16"	4	COMMERCIAL
4	SCREW, HEX HEAD MACHINE 5/16 x 3.0 LONG	4	301456-001
5	BRACKET, TALL	2	65600
	BRACKET, SHORT	2	65601
6	SWIVEL BALL	2	66781
7	SCREW, HEX HEAD CAP 3/8-24 x 2.00" LONG	1	COMMERCIAL
8	WASHER, FLAT 3/8"	3	COMMERCIAL
9	SWIVEL BUSHING	1	300634-001
10	NUT, ELASTIC STOP 3/8-24	2	COMMERCIAL
11	BUSHING, RUDDER ARM	1	300634-002
12	SWIVEL	1	300633
13	SCREW, HEX HEAD CAP 3/8-24 x 1-1/4" LONG	1	COMMERCIAL