



TR-1 Gold

Cylinder and Bracket Mounting Instructions

Mercury 8 HP 2 Stroke: 1988/2000

Mercury 9.9 HP 2 Stroke: 1988/2000

Mercury 15 HP. 2 Stroke: 1988/2000

Mercury 20 HP. 2 Stroke: 1988/2000

Mercury 9.9 HP. 4 Stroke: 1996/early 1999

Mercury 15 HP. 4 Stroke: 1996/early 1999



PARTS:

ITEM	PART NUMBER	QTY.	NAME
1	130-1022-00	1	Bracket, Rod Eye Mounting
2	330-1023-00	1	Pin, Stern Pivot
3	380-1024-00	1	Channel, Cylinder Mtg.
4	370-1025-00	1	Cushion, Channel Mounting
5	330-1026-00	1	Angle Plate
11	310-0203-50	2	Hex Cap 1/4-20 X 3.5 ss
12	130-0084-02	1	"U" Bolt 1 3/4" ID 1/4-20
13	310-0067-01	1	Hair Pin, Cotter Lg.
14	310-0067-02	1	Hair Pin, Cotter Med.
17	310-2501-38	1	Clevis Pin 1/4 D X 1 3/8
20	310-0041-14	2	Hex Nut 1/4-20 ss

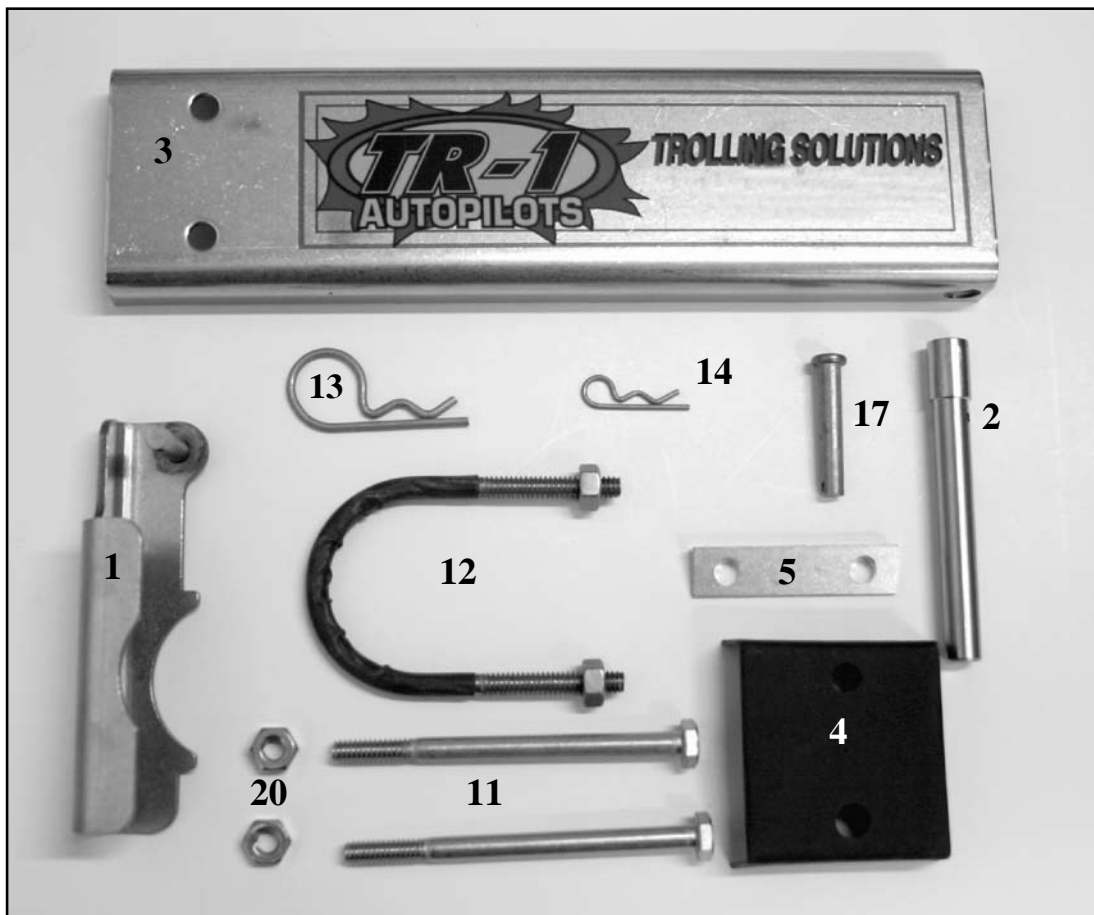
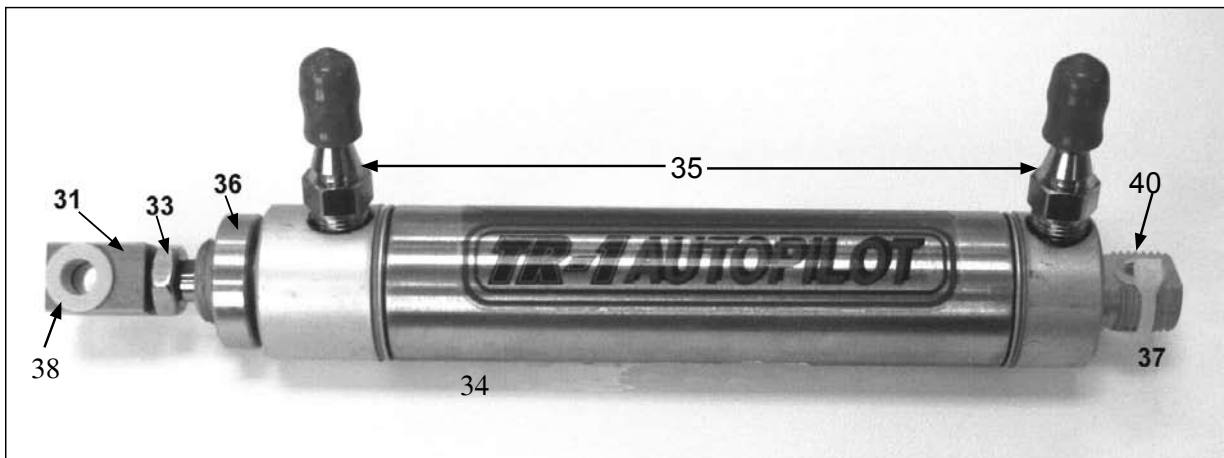


Figure 3

Cylinder Kit PN 120-0900-00

ITEM	PART NO.	QTY	NAME
31	330-1002-00	1	Rod Eye, 5/16-24
33	310-0042-09	1	Hex Jam Nut 5/16-24
34	340-0900-00	1	Cylinder
35	321-0001-00	2	Fitting, Straight 1/8 NPT X 1/4
36	330-1101-00	1	Zinc Anode (Replace)
37	310-0040-26	1	Washer, Flat, Nylon 1/4 ID X .03
38	328-0901-00	2	Bushing 1/4 ID X 5/16 OD X 1/4"L
40	328-0902-00	1	Cylinder Tail Bushing



I. Installing the Cylinder Mounts.

Needed tools:

- Two; 10 MM Wrenches
- Two; 7/16 In. Wrenches
- Thread lock (Loctite or similar)



Figure 2



Figure 4

Step One: Align Mounting Bracket

Tip the motor all the way up. Align the two bumps on the top of the Rod Eye Mounting Bracket (*item 1*) so they enter the bottom of the grooves on the inside of gussets on the motor's steering pivot bracket as shown in figure 4.



Figure 5

Step Two: “U” Bolt

Install the “U” Bolt around the pivot bracket neck and thru the holes in the Rod Eye Mounting Bracket (*item 1*). Put a little thread lock on the protruding screw ends of the “U” Bolt. Mount and tighten the “U” Bolt Nuts.

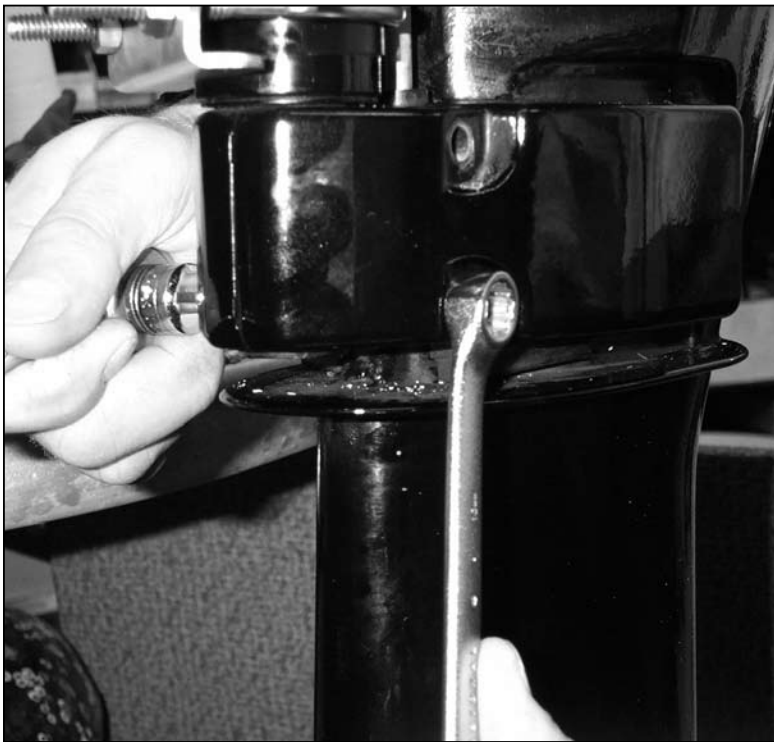


Figure 6

Step Three: Remove Bolts

Tilt the motor down. Remove the two bolts that hold the lower vibration isolation mounting shrouds. Leave the shrouds in place.

Step Four: Mounting The Channel

Slide the two Hex Cap Screws (*item 11*) through the Angle Washer Plate (*item 5*). Keep the thick edge to the left. Now slide the two Hex Cap Screws (*item 11*) into the Cylinder Mounting Channel (*item 3*). (*With the label facing you right side up*) Run the screws through the holes on the left end from the near side. Next, slide the screws through the flat side of the Channel Mounting Cushion (*item 4*), keeping the thin side to the right. Last, slide the Screws all the way through the holes in the lower vibration isolation mounting shrouds (*that you took the metric screws out of in the previous step*) from the port side. Apply the your thread lock compound to the threaded ends of the screws, and put on the Hex Nuts (*item 20*). Keep the Channel perpendicular to the motor down shaft and tighten the Nuts and you are ready for the Cylinder. (*The thread lock really is needed.*)



Figure 7

Step Five: Stern Pivot Pin

Slide the Stern Pivot Pin (*item 2*) through the back of the Cylinder Mounting Channel (*item 3*) from the top.



Figure 8



Figure 10

Step Six: Cylinder Rod Eye

Place the Rod Eye (*item 31*) over the vertical pin in the Rod Eye Mounting Bracket (*item 1*) as shown. (*Leave the cylinder attached.*) Install the Medium Hair Pin Cotter (*item 14*) through the hole in the vertical pin. Turn the Cylinder (*item 34*) Fittings (*item 35*) up.

Step Seven: Cylinder End Cap

Line the hole in rear end cap of the Cylinder (*item 34*) with the hole in the top of the Stern Pivot Pin (*item 2*). Slide the Clevis Pin (*item 17*) through the hole into the Stern Pivot Pin. Put the Large Hair Pin Cotter (*item 13*) through the cross holes in both Pins (*Under the Channel flange*).



Figure 11

Step Eight: Full Port & Starboard

Turn the motor hard over to port. That will retract the Cylinder rod into the Cylinder. Check that the Cylinder rod is still free to retract at least a little more. Next turn the motor hard over to starboard. That will extend the Cylinder rod out of the Cylinder. Check that the Cylinder rod is still free to extend at least a little more. It should have additional travel in both directions. If it does not adjust the position of the Rod Eye (*item 31*) on the Cylinder shaft. The Cylinder shaft should turn with your fingers if the Hex Jam Nut (*item 33*) is loose. (*If the shaft does not turn freely enough, use a thin 1/4 Inch open end wrench at the shaft's wrench flats.*) **Do not use any tool on the cylindrical part of the Cylinder shaft. If the shaft gets scratched or bent the seal will fail.** With the cylinder properly adjusted, secure it by tightening the Hex Jam Nut against the Rod Eye. It is recommended to use a few drops of Loctite or similar thread locking compound on the Rod Eye and Jam nut threads. It is ready for plumbing. We suggest you put the original parts in a container and, carefully, store them. (*You may eventually want to sell or trade in your motor, but we know you will want to keep your TR-1 autopilot.*)



Figure 12



Figure 13