4” 2-1 Tachometer & Volt with Studded Connectors

IS0416

Installation Manual

Caution

Disconnect the battery during installation.

Tighten nuts on the back clamp only slightly more than you can tighten with your fingers. Six inch-pounds of torque are sufficient. Over tightening may result in damage to the instrument and void your warranty.

Use stranded, insulated wire not lighter than 18 AWG. Be certain wire insulation is not in danger of melting from engine or exhaust heat or interfering with moving mechanical parts. It is recommended that insulated wire terminals, preferably ring type be used.

Scale may vary depending on model.

Installation

1. Location: The tachometer should be located at least 18” from a magnetic compass. Some interference (erratic operation) may be noticed during radio transmissions. This will neither damage the tachometer nor affect accuracy when not transmitting.
2. Using a small flat head screw driver, SLIGHTLY depress and turn the selector switch to the correct position to match the number of poles in the alternator. *See label on side of tach.*
3. Depressing the switch too hard may cause damage to the tachometer! Be sure the selector switch has locked into the detent at the correct position by slightly rotating the switch back and forth with the screwdriver.
4. If the number of poles is not known, consult the “Tachometer Applications” chart or call Faria Beede Instruments at (860) 848-9271 with make, model, HP, and year of the motor. *Note: If a fine adjustment is required, use a 000 Phillips Jewelers screw driver through the Fine Adjustment Pot access hole.*
5. Cut a 3 3/8” (86 mm) diameter hole in the dash allowing a clearance of 3” (80 mm) for wires. Mount the 2-1 Multifunction gauge with the back-clamp supplied. Use the supplied washers and nuts and tighten.
6. Connect a wire to the stud marked “5” (B+) and secure with a nut and lockwasher. Connect the opposite end to a 12V DC circuit that is activated by the ignition switch.
7. Connect a wire to the tach stud marked “1” (TACH) and secure with a nut and lockwasher. Connect the opposite end to a terminal or wire originating from the unrectified side of the alternator. On most late model outboards, a tach hook-up wire can be found at the control box. Tach plug-in harnesses are sometimes available from the engine manufacturer to simplify the hook-up.
8. Connect a wire to the stud marked “6” (GND) and secure with a nut and lockwasher. Connect the opposite end to the boat’s electrical ground, generally available in several locations at or near the instrument panel.
9. Connect a wire to the stud marked “4” (LIGHTS). Connect the opposite end to the positive (+) side of the boat’s instrument lighting circuit. No separate ground is required for lighting.

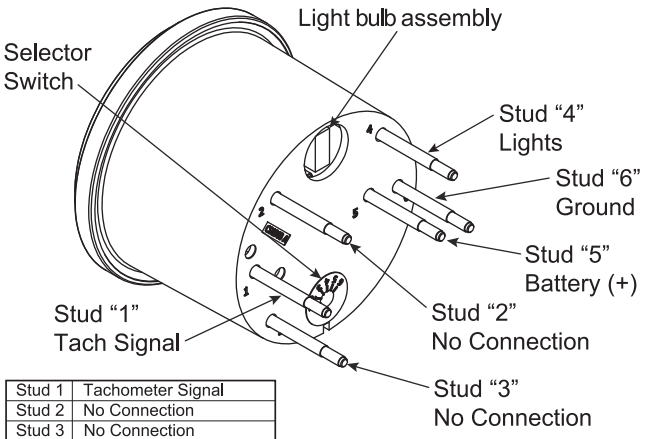
NOTE: To change light bulb, twist socket assembly one-eighth turn counterclockwise until it disengages. Bulb pulls straight out of assembly. It is a GE series instrument lamp.

Parts

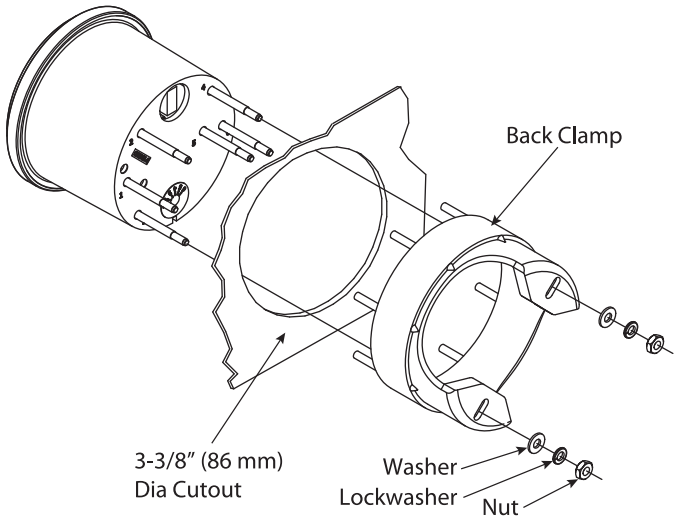
QTY	DESCRIPTION
1	4 Inch Tachometer & Volt
1	Mounting Bracket (BC0158)
6	#8 Lockwasher (LW0017)
6	#8-32 5/16 Hex nut (NT0029)
2	#8 Washer (WS0035)

Note: Extra hardware may be left over after install.

Wiring Diagram



Stud 1	Tachometer Signal
Stud 2	No Connection
Stud 3	No Connection
Stud 4	Lights
Stud 5	B+
Stud 6	Ground



Made in the USA

Tachometer Applications

OutBoard Engines

Make / Year	Model	# of Poles
Chrysler 1968 - 1983	35 HP, 70 HP & up	12
	55, 60, 85 & 125 HP	20
Force 1984 - 1999 Some older Force engines are 20 pole (see note f.)	50 HP through early 1987 (A,B models)	8
	35 HP (1986 & later) 40 HP (1991 & later) 50 HP (1992 B models & later) 70 HP (1991 & later) 90 - 120 HP L-Drive (1991 B & later) 145 HP L-Drive (1991 & later)	12
Honda to Present Older tiller models require Honda jumper wire 32197-ZH8-003, BF 40/50 HP require 06383-ZV5-315 Tach Kit (thru 2005)	BF 75/100A, BF 8A, BF 9.9/15A HP BF 25/30, BF60, BF 75/90 HP BF 40/50 (2006 and later) BF 115 /130 HP BF 135/150 HP, BF 200/225 HP	4
	BF 35/45, BF 40/50 HP (thru 2005)	6
	BF 8D/9,9D, BF 15D/ 20D (Includes Power Thrust Models)	12
Mercury/Mariner 1977 to Present (See note "e") *Use Tach adapter #17461A9 Service #17461T9 **Use Tach adapter MM #17461A8 or A10 Service #56-883040A1 SmartCraft requires AGI converter for Analog Gauges.	18, 25, 48, 60 HP Mariner through 1983 8, 9.9, 15 and 25 HP (4 stroke)(after1998-2004) Less than 40 HP - All Before 1999 40 HP (serial # 582399 and before)	4
	8, 9.9 (Before 1999 and after 2005) & 50H (4 stroke)	6
	Verado 200 - 400 HP	8
	6 to 25 HP 1999 & up, *2002 & up	10
	25 HP & 30 HP (4 stroke) 40 HP (after serial # 582399) 45 HP (1987), 50-60 HP (4 stroke EFI) 50 HP & above, ** 75, 90,115 HP (4 stroke EFI) 135, 150, 200, 225 HP, DI 3.0L EFI 225 & 250 HP Pro Max 3.0L 300 HP EFI	12
Evinrude/Johnson 1977 to Present for 88 HP {90} & 112 HP {115} a voltage reg. kit is recommended. A System Check Tach or 2" gauge is required	9.9 HP -15 HP 4 stroke after 2001	6
	All 2 cylinders less than 70 HP (Pre 1993)	10
	9.9 HP & 15 HP (2 cylinder) (4 stroke) 25-35 HP 3 CYL 40-50 HP, 2 cylinder (1993 & later) 60 HP, 3 cylinder (1985 & later) 70 HP & greater, including sea drives All FICHT models All E-Tech 40 HP - 250 HP	12

Make / Year	Model	# of Poles
Suzuki to Present A System Monitor Tach or 2" gauge is required	Less than 55 HP - All, DT55, 2-Stroke Models 60 HP, 65 HP thru 1985, DT 2-Stroke Models 50 - 60 HP Cabrea, DT 2-Stroke Models	4
	DF 2.5 through DF 15, DF 25 V(TWIN) 2006 & later 25 HP & 30 HP (1993 & later) DT 2-Stroke Models 55 HP & 65 HP (1985 & later) DT 2-Stroke Models	6
	75 HP & up (1985 & later) DF 25 through DF 30 (3 Cyl Models), DT 2-Stroke Models 75 HP and up (Cabrea) DT 2-Stroke Models 115 HP and up (1988 & later), DT 2-Stroke Models DF 40 through DF 250, (4 stroke) ALL	12
Tohatsu / Nissan to Present (See note "e").	(2 strokes) 8 HP, 9.8, 9.9, 15, 18, 25, 30, 40C, M40C or less (all 2 cylinder) All TLDI 40 through 115	4
	(2 strokes) M40D, 40D2, 50D, 50D2, 70B and CM90A (all 3 cylinder) (4 strokes) MFS20 or less	6
	(2 strokes) 115 HP, 120 HP, 140 HP, M115A-M140A (all 4 cyl.) (4 strokes) 8, 9.8, 9.9, 15, 18, 25 & 30 HP, EFI 25, 30, MFS25/30 (3 cyl)	12
Yamaha 1984 to Present S250B and V8 four stroke will not support a conventional tachometer.	6 HP - 25 HP (2 cyl '84-'87), F/T 9.9 ('85-'91) C25 - C55 (2 cyl) Except C30 (2cyl '93-'97)	4
	F/T 9.9 (MID '92 on), C30-C70 (3 cyl) C30 (2 cyl '93-'97), 25 HP (3 cyl), 25HP (2cyl, '88-'05) C/P/E 30-70, F8, F15, F20	6
	F/T 25-F250, HPDI 150-300, 80-SX250 F/T 9.9 (early '92), C75-C150, P75-P200 V /V X 150-250, F15C/F20	12

I/O and Inboard Engines

Most I/O and Inboard Applications use a Tach Setting as Follows

4 Cylinder	Setting 1
6 Cylinder	Setting 2
8 Cylinder	Setting 3

For Mercury engines use the following:

Engine	Tach Signal	Pulses	Setting
3.0 TKS	4 cyl	2P/Rev	1
3.0 MPI EC	8 cyl	4P/Rev	3
4.3 TKS	6 cyl	3P/Rev	2
4.3 MPI	6 cyl	3P/Rev	2
4.3 MPI EC	8 cyl	4P/Rev	3
4.5L MPI	6 cyl	4P/Rev	3
4.5L MPI EC	6 cyl	4P/Rev	3
5.0 MPI	8 cyl	4P/Rev	3
5.0 MPI EC	8 cyl	4P/Rev	3
350 Mag	8 cyl	4P/Rev	3
350 Mag EC	8 cyl	4P/Rev	3
377 Mag & EC	8 cyl	4P/Rev	3
8.2 Mag & EC	8 cyl	4P/Rev	3

6000 RPM w/12 Pole option - Pre 2016

ENG. CYL. SWITCH SETTING
1 - 4 CYL
2 - 6 CYL
3 - 8 CYL
4 - 12 POLE OB ALT
SLIGHTLY DEPRESS WHILE TURNING

6000 RPM w/12 Pole option - 2016 & newer
7000 RPM Outboard Tach

SWITCH SETTING
1 - 4 POLE/CYL
2 - 6 POLE/CYL
3 - 8 POLE/CYL
4 - 10 POLE
5 - 12 POLE
SLIGHTLY DEPRESS WHILE TURNING

Notes:

a. 6000 RPM tachs are for Inboard & I/O gas engine applications only

b. 7000 RPM & 8000 RPM tachs are for all outboard motor applications only. 20 Pole Tachs are no longer available.

c. Electrical pulses per revolution are equal to 1/2 the number of alternator poles.

d. Older model outboards (prior to 1977) may have the tach signal wire originating at the ignition system though they are alternator equipped. All alternator tachometers may be used on these systems by disconnecting the tach signal wire at the engine and connecting that wire to the unrectified alternator signal at the rectifier. Be certain the number of alternator poles match the tachometer pole setting of the tach.

e. TOHATSU recommends, when using aftermarket tachs on TLDI engines, using indictor light kit part number 3Y9762510 and Harness 3T5710420. Strong alternator interference on some TOHATSU / NISSAN outboards and some pre 2001 Mercury 90HP outboards may require wiring a .1mf, 100 volt non-polarized capacitor between the signal and ground stud terminals.

f. Faria Beede no longer makes a 20 pole tach.