Sun ELECTRIC CORPORATION

INSTALLATION INSTRUCTIONS

TRANSISTORIZED ONE-PIECE TACHOMETERS

MODELS:

IT-250, IT-450, IT-470, ST 600, AND SST-800 SERIES. ALSO MODELS SST-351 AND MACH 450, 454, 468 & 470

1. Disconnect battery ground cable from battery to avoid accidental grounding of the electrical system while making connections.
2. Use 18 gauge insulated stranded copper wire for all connections.
3. For Models MACH-468 and 470, or Model IT-470 series tachometers, turn the cylinder selector switch on the back of the tach so that the slot on the switch lines up with the desired mark on the tach case.
4. Connect tach's light bulb lead to vehicle's dash light circuit. (If after all tach connections are made, the light fails to work, it may be necessary to connect a wire from the ground terminal of the tach to the adjacent mounting stud.)
5. Connect a wire from the negative ground terminal on the tach, to a good engine ground (avoid painted or insulated surfaces).
6. Connect a wire from the igntion switch terminal on the tach to the car's ignition switch, or to the accessory terminal of fuse box. (If a boat installation, connect to ignition switch only.)
7. Connect a wire from the trigger terminal on the tach to the trigger point indicated by the "Tachometer Application Guide", or the ignition system manufacturer's instructions. (When routing wire to engine compartment use existing grommet in firewall where possible.)

TROUBLE SHOOTING GUIDE

If your tach does not function properly after installation, check the following points:

1. Did you set the cylinder selector switch to match the number of cylinders on engine?
2. Double check all electrical connections to be sure they are secure.
3. If neither tach light nor meter operate, double check your "ground" and "ignition switch" connections.
4. Be sure to follow the correct "trigger procedure" for your particular ignition (changing or altering ignition circuit or ignition components will affect operation of tach.)
5. A faulty ignition can affect the operation of your tach. For example, point bounce will cause erratic movement of the tach needle. Be sure your ignition system is functioning properly.

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TACHOMETER APPLICATION GUIDE

[Gasoline Engines]

The letters (A, B, C, etc.) in the guide indicate which group(s) of tach models are recommended for use with your particular ignition system. The tach group listings appear at the end of the guide.

The numbers (1, 2, 3, etc.) in the guide refer to the proper triggering procedure also listed at the end of the guide.

IGNITION SYSTEM	RECOMMENDED GROUP[S] OF TACHOMETERS	INSTALLATION PROCEDURE
CONVENTIONAL BREAKER POINT SYSTEMS		
(Original Equipment Ignition Components Only)		
12 Volt, negative ground	A, B, C, D, F, G	1
12 Volt, positive ground	B	3
DUAL BREAKER POINT-DUAL COIL SYSTEMS		
8 cyl. 12 Volt, negative ground	A, C, D, F (Use 4 cyl. tachs only)	10
MAGNETO SYSTEMS		
8 cyl. 12 Volt negative ground (power supply required)		
Joe Hunt Vertex	E	8
Judson Electronic	A, C, D	2
Mallory Mini Mag	B, E	2
Ronco Vertex	E	8
Schiefer	B, E	2
Vertex (original)	B, E	2
TRANSISTOR, CD, AND BREAKERLESS SYSTEMS		
Balance of ignition components original equipment only (12 Volt, negative ground)		
Accel BEI	D	3
Accel Dual Point	A, C, D	2
American Motors Electronic	A, B, C, D, F, G	1
Borg Warner Electronic	A, B, C, D	1
Chrysler Electronic	A, B, C, D, F, G	1
Crager Power Pack C.D.	D	3
Delco-Tronic Mag Pulse	A, B, D	14
Delco Unitized	A, C, D	4
Echlin T-38-N	A, B, C, D	2
Ford Breakerless	A, B, C, D, F, G	1
General Motors Electronic (HEI)	D, F	4
Hays Stinger S-4	A, C, D	1
Heathkit CD	D	3
International Harvester Electronic	A, B, C, D, F, G	1
Knudsen	A, B, C, D	3
Lumenition-MK-10	A, C, D	1
Mallory Double Life	A, C, D	2
Mallory Double Life with Super CD	D	2
Mallory Rev-Pole with Voltmaster Mark II Coil	A, C, D	2
Mallory Solid State Conversion Kit	A, C, D	1
Mallory Super CD	D	3
Mallory Super CD & Infra-Red Distributor	D, F	3
Mallory Super Mag II	(No tach available at this time)	

Mallory Unilite	A, C, D, F, G	1
Mark 10 with Delta's Tach Adapter TA 200	A, B, C	2
Mark 10B	D	12
Mark 10B with Delta's Tach Adapter TA 200	A, B, C, D	13
Mobelec Heavy Duty Electronic with Mobelec's Tach Adaptor	A, C, D	11
Mobelec CD Ignition Model 2100	A, B, C, D, F, G	15
Motorola CDI-12	A, B, C, D	5
Motorola TR-12N	A, C, D	6
Mr. Gasket-DC Gold Spark	D (set selector on 4 cyl.)	1
MSD-2 (#402-2)	A, B	2
P & D Electronic	A, D	1
J. C. Penney Electronic Ignition	A, B, C, D, F, G	15
Phase III	D	3
Prestolite 201 & 250	A, B, C, D	6
Prestolite Electronic	A, B, C, D, F, G	1
Radatron MK-1	A, B, C, D	6
SCR Conversion Kit by Hurst/Airheart	A, C, D	1
Sears CD Electronic ignition Model 28-8204	D, F, G	16
Sears CD Electronic Ignition Model 28-8205	D, F, G	16
Sears Breakerless Conversion Kit Model 28-8206	C, D, F, G	16
Sydmar C.D. Fireball	A, C, D	2
Wankel-Mazda RX-2	D (Set selector on 4 cyl.)	10
Wico TI-296A	A, B, C, D	9

TWO CYCLE ENGINES

(With standard 12 Volt ignition)

For tach selection, double number of cylinders, for example a 3 cylinder, 2 cycle engine requires a 6 cylinder, 4 cycle tach

MECHANICAL TACH DRIVE SYSTEMS

(Power supply not required)

Accel	Use Mach 400 or 401 with PG-2A Transmitter & drive tang 1285-23
Echlin	Use Mach 400 or 401 with PG-2A transmitter & drive tang 1285-23
Delco	Use Mach 400 or 401 with PG-2A transmitter & drive tang 1285-23
Mallory	Use Mach 400 or 401 with PG-2A transmitter & drive tang 1285-23
Mr. Gasket	Use Mach 400 or 401 with PG-2A transmitter & drive tang 1285-23
Vertex	Use Mach 400 or 401 with PG-2A transmitter & drive tang 1285-23
MoPar	Use Mach 400 or 401 with PG-2A transmitter & drive tang 1285-15

NOTE: Due to the limitless number of combinations of ignition system components, and the constant addition of new units to the market, it is difficult to list each and every one, though we are continually expanding and updating our data.

Should you have any questions concerning the model choice (or installation) of your Sun tach, please call or write us.

TACHOMETER GROUP LISTINGS

GROUP A	GROUP B	GROUP C	GROUP D	GROUP E	GROUP F	GROUP G
8 cyl.	**8 cy.**	**8 cyl.**	**8 cyl.**	**8 cyl.**	**8 cyl.**	**8 cyl.**
SST-801	SST-709 with EB-9A	SST-802	MACH-468	MACH-471	IT-474	SST-II
ST-601	ST-504 with EB-9A	ST-602	MACH-470	MACH-451	IT-475	
MACH-450	ST-505 with EB-9A		IT-473-1		IT-476	
MACH-454	ST-506 with EB-9A				IT-477	
IT-250	ST-507 with EB-9A					
IT-251	ST-508 with EB-9A					
IT-266						
IT-450						
IT-451						
IT-466						
IT-473						
6 cyl.	**6 cyl.**	**6 cyl.**	**6 cyl.**	**6 cyl.**	**6 cyl.**	**6 cyl.**
ST-606	SST-709 with EB-7A	N/A	MACH-468	N/A	IT-474	SST-II
IT-452	ST-504 with EB-7A		MACH-470		IT-475	
IT-453	ST-505 with EB-7A				IT-476	
IT-467	ST-506 with EB-7A				IT-477	
	ST-507 with EB-7A					
	ST-508 with EB-7A					
4 cyl.	**4 cyl.**	**4 cyl.**	**4 cyl.**	**4 cyl.**	**4 cyl.**	**4 cyl.**
IT-454	N/A	SST-351	MACH-468	N/A	IT-474	SST-II
IT-455			MACH-470		IT-475	
IT-468					IT-476	
					IT-477	

TRIGGERING PROCEDURES

Connect lead from trigger terminal to:

1. Negative terminal of coil
2. Distributor points
3. Positive terminal of coil
4. Tach terminal of distributor using the ¾" long piece of shrink tubing and the female spade connector included with tach.
5. Grey lead from amplifier
6. Junction of amplifier and ballast resistor
7. Junction of coil & ballast resistor
8. Primary terminal of magneto
9. Junction of amplifier & ballast resistor (if no ballast resistor, use positive terminal of coil)
10. Negative terminal of one coil
11. Tach terminal of adaptor
12. Positive terminal of coil (bypass ballast resistor)
13. Distributor points (positive terminal of coil if using "Group D" tach)
14. Positive terminal of coil (blue tach lead if using a "Group B" tach)
15. Orange wire from power module
16. Tach terminal of module

Sun CONSUMER PRODUCTS

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