

Subtle Shock

According to the February, 1966, issue of "Shop Tips from Ford," there is an electrical feedback condition during use of emergency warning flasher operation on 1966 Ford cars including Mustang. This will occur "when the following three situations are present simultaneously:

- The emergency warning light is in the "on" position.
- The ignition switch is in the "off" position.
- The turn signal switch is in either the left or right turn positions.

"The electrical feedback will enable the driver to operate any of the electrical accessories which operate from the accessory terminal of the ignition switch such as, the radio or power windows without the ignition key. The operation of the accessories, however, will be intermittent. For instance, the power windows will "jerk" going up or down and the radio will emit an intermittent "bleeping" noise.

"Owners should be instructed not to operate the emergency warning lights and turn signals simultaneously. They should also be advised that no damage can occur to any of the electrical components because of the feedback."

Now truthfully, how many of you knew that?!

Advance Argument

Most mechanics think that timing specifications are just that, specific numbers that are used to set the initial timing during a tune-up or overhaul. This isn't quite true, as witnessed by the following instructions from Ford concerning timing of 1966 vehicles:

"1. If the individual requirements of the car and/or the use of sub-standard fuels dictate, the initial timing may have to be retarded from the recommended setting to eliminate detonation (spark knock). If retiming is necessary, it should be done progressively and not to exceed 2 degrees BTDC. It should

be noted that Thermactor equipped vehicles with an initial timing of TDC cannot be retarded.

"2. For altitude operation, and/or to obtain optimum engine performance and fuel economy, the initial timing may be advanced 5 degrees over the "normal" setting. No further improvement in engine performance or fuel economy will be achieved by advancing beyond this point. Advance the timing progressively until engine detonation (spark knock) is evident under actual road test acceleration. Retard the timing until the detonation (spark knock) is eliminated."

Be certain to have the car completely warmed up on that detonation test drive and do try it up a fairly steep hill, too. Ford continued to advise this sort of "tailored timing" until government specs eliminated any possibility of a variance from certified values. This particular wording was lifted from the April, 1966, issue of "Shop Tips from Ford."

AC & DC

Excessively high readings of the temperature and/or oil gauges on 1970 Mustang . . . especially with the headlamps or air conditioning turned on, may be caused by a loose or corroded body ground at the *alternator regulator base*.

To correct this condition . . . remove and clean the grounding tab contact surfaces and the sheet metal screw. Then install a star washer *between* the negative cable grounding tab and the alternator regulator base as shown in the illustration . . .

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Hard Heater

Damage to a newly installed or reinstalled heater core can occur when forcing a dry heater hose on a dry heater core tube. The excessive force required to install the hose may result in a break in the solder connection at the

tube.

Heater hose installation force can be reduced significantly by applying a soap solution to the heater core tubes and the ends of the heater hose. The reduced installation force will greatly reduce the possibility of damaging the heater core solder connections.

Don't forget to install the hose clamps.

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Sneaky Spark

Operating an engine at faster than curb idle speed, under no load (transmission in neutral) may cause a "skip" or "engine roughness." If the engine is properly timed, this condition is entirely *normal* and should not be automatically diagnosed as some type of engine problem. The "skip" results from abnormal operating conditions.

Normally, when the engine is operating under a load (transmission in gear) the distributor vacuum advance provides far less spark advance, than under a no-load condition. That's because an engine under load produces far less vacuum than a free running engine under a no-load condition.

Thus, between the off idle to 1200 rpm range the engine, due to excessive spark advance, actually runs rough as though a cylinder is mis-firing. This condition is inherent in any internal combustion engine equipped with a centrifugal vacuum spark advance distributor. It's a product of the particular advance curve and initial ignition timing for the engine.

You can verify this by momentarily disconnecting the distributor vacuum line at the distributor. Plug the line while it's disconnected. If the roughness smooths out without loss of rpm, nothing is wrong with the engine and no corrective action is required. If obvious roughness is still present, then an engine problem may exist and further diagnosis is required.

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