



Cortina

OCP TECHNICAL GUIDE

Electronic Distributor Conversion

Fitment & Commissioning Instructions

Ford Cortina / Essex V6
OCP Reference DIST0090



Prepared for the Ford Cortina Fanatics Club and classic Ford owners using the OCP electronic conversion service. This guide covers distributor refit, module mounting, wiring, first start, ignition timing and troubleshooting.

ESSEX V6

3.0 L / related applications

SERVICE ITEM

Your original unit is converted

VERSION 1.1

August 2026

Before You Start

The OCP service converts your original Ford/Essex distributor from mechanical contact points to an electronic trigger with an external ignition module. The objective is to retain the original distributor body and drive while removing routine points-gap maintenance.



Typical returned converted unit and module harness.

SCOPE OF THIS GUIDE

Written for OCP conversion service DIST0090 and focused on Ford Cortina Essex V6 applications. The same Essex distributor family also appears in Capri, Granada, Courier, Sierra/Sapphire, Mazda B-Series and other related installations, but wiring and coil arrangements can differ by vehicle.

Recommended tools

- 10-13 mm spanners/sockets and screwdrivers
- Timing light (strobe)
- Digital multimeter
- Marker pen or paint marker
- Insulated crimping tools and terminals
- Small wire brush / emery paper for module earth

Safety essentials

- Work with the ignition OFF and battery negative disconnected during installation.
- Keep hands, test leads and loose clothing away from the fan, belts and pulleys when the engine is running.
- Ignition systems generate high voltage. Do not hold HT leads or coil terminals while cranking/running.
- Use a qualified auto electrician if the vehicle wiring has been heavily modified or is undocumented.

IMPORTANT - TAKE PHOTOS BEFORE REMOVAL

Before removing the old distributor, photograph the cap, plug-lead positions, vacuum hose (if fitted), low-tension wiring and the exact direction the rotor points. Mark the distributor body against the engine and mark the rotor position. Those two marks are your fastest route to a correct refit.

Distributor Removal & Refit

Because OCP converts your original distributor, the easiest installation is to preserve the original rotor and housing position before the unit is removed. If those marks are missing, use the recovery procedure below.

1

Disconnect the battery

Remove the negative battery terminal. Remove the air-cleaner assembly if it restricts access.

2

Mark the ignition layout

Label all six HT leads before removing the cap. Mark the distributor body against the engine and mark the rotor direction.

3

Set No. 1 for a clean reference

If you are starting from scratch, turn the engine by hand to No. 1 cylinder on the compression stroke and bring the crank mark to about 10° BTDC.

4

Remove the distributor

Disconnect the low-tension wire(s), remove the hold-down clamp/bolt, and lift the distributor out. Expect the rotor to rotate slightly as the helical gear disengages.

5

Refit the converted unit

Lightly oil the distributor seal/O-ring if applicable. Start the rotor slightly before the marked position so it rotates into alignment as the gear engages.

6

Seat fully before tightening

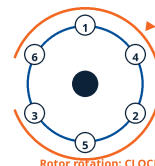
The distributor must sit fully down on its mounting face. Do not pull it down with the clamp bolt. Lightly tighten the clamp so the body can still be rotated for timing.

7

Refit cap and HT leads

Reconnect leads in the correct firing order and confirm the centre coil lead is secure. Route all wiring away from exhaust heat and moving parts.

FORD ESSEX V6 - FIRING ORDER & DISTRIBUTOR ROTATION



FIRING ORDER

1 - 4 - 2 - 5 - 3 - 6

No. 1 cylinder:
Front right in the direction of travel

If plug leads were removed, refit them clockwise around the cap in the order above.

Rotor rotation: **CLOCKWISE**

If the original marks are lost

- Confirm No. 1 cylinder is on the compression stroke, not the exhaust stroke.
- Set the crank to approximately 10° BTDC as a starting point for the 3.0 L Essex.
- Install the distributor so the rotor points to the No. 1 cap terminal after the gear is fully engaged.
- Arrange the remaining plug leads clockwise around the cap in the firing order 1-4-2-5-3-6.

FORD ESSEX V6 REFERENCE

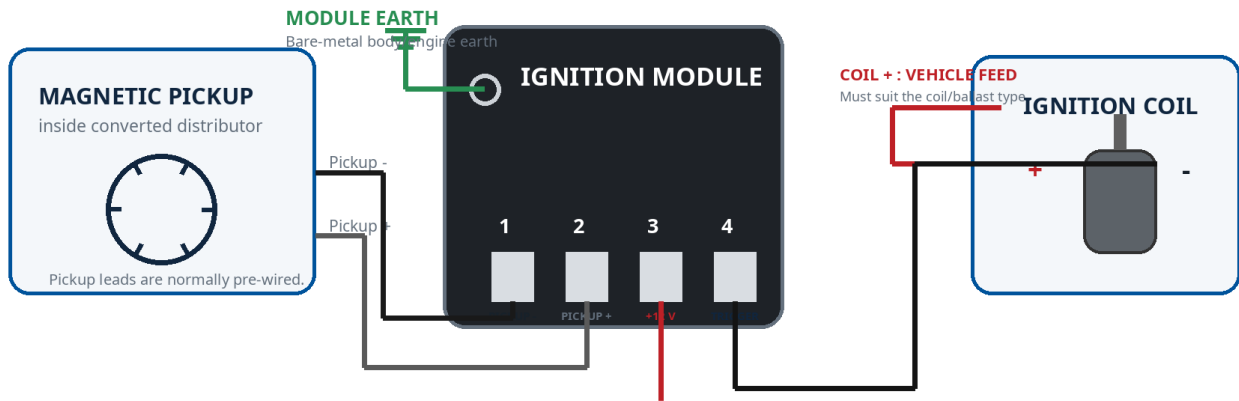
Firing order: 1-4-2-5-3-6. Distributor rotation: clockwise. No. 1 cylinder is the front-right cylinder in the direction of travel. Always confirm your specific engine layout if it has been swapped or modified.

Electrical Wiring & Module Mounting

The converted distributor and module harness are normally supplied pre-wired. Make the vehicle-side connections carefully and identify each circuit by function, not by wire colour alone. Different conversion batches and older vehicle looms may use different colours.

OCP ELECTRONIC DISTRIBUTOR CONVERSION - WIRING OVERVIEW

Connect by terminal FUNCTION and harness label, not by wire colour alone.



BALLAST CHECK: If coil + is only about 6-9 V in RUN, the car is ballasted. The MODULE still needs a true switched 12 V supply.

Module functions

Terminal	Function	Fitment note
1	Magnetic pickup negative	Normally pre-wired to the pickup inside the distributor.
2	Magnetic pickup positive	Normally pre-wired. If the engine starts but refuses to rev cleanly, pickup polarity can be reversed by swapping 1 and 2 with ignition OFF.
3	Switched +12 V supply	Must have battery voltage with key in RUN and while cranking. Do not use a reduced ballast feed as the module supply.
4	Ignition trigger output	Connect to the coil negative / ignition interface as supplied and labelled on the OCP harness.
Earth	Module body / mounting bolt	Mount on clean bare metal. A poor earth is one of the most common causes of intermittent misfire.

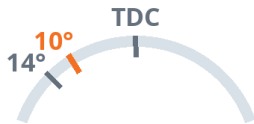
BALLASTED COIL SYSTEMS - CHECK BEFORE YOU CONNECT

Classic Fords may use a ballast resistor or resistance wire, so coil positive can be only about 6-9 V in RUN. The electronic module needs a clean switched 12 V feed. If the ballast is bypassed, the coil must be a true 12 V non-ballast coil. Do not run a low-voltage ballasted coil directly on 12 V unless it is designed for that duty.

First Start, Timing & Commissioning

Do not assume the engine timing is correct just because it starts. The conversion removes contact-point wear, but the distributor body still determines base timing. Final timing must be checked with a strobe.

BASE TIMING - STANDARD 3.0 L ESSEX V6



Starting point:

10° BTDC

Use a strobe timing light with the engine at normal idle.

If vacuum advance is fitted, disconnect and plug the vacuum hose while setting base timing.

Modified or 3.4 L engines: use the engine builder / tuner specification instead.

First-start sequence

- 1 With the battery still disconnected, do a final pull-test on every crimp, module terminal and earth point.
- 2 Reconnect the battery. Turn the ignition ON and verify the module has a true switched supply. Confirm that no wires become hot.
- 3 Crank the engine. If it kicks back, backfires through the carburettor or will not start, switch OFF immediately and recheck No. 1 position, rotor phasing and firing order.
- 4 Once running, allow the engine to stabilise. Check for arcing around the cap and HT leads and keep the module harness away from the fan and belts.
- 5 Connect the timing light to No. 1. If vacuum advance is fitted, disconnect and plug the vacuum hose while setting base timing.
- 6 For a standard 3.0 L Essex on modern unleaded fuel, use 10° BTDC as a sensible baseline unless your engine specification calls for something different. Rotate the distributor body carefully, tighten the clamp and recheck.
- 7 Reconnect vacuum advance if fitted. Raise engine speed progressively and confirm timing advances smoothly without erratic jumping or misfire.

GOOD COMMISSIONING RESULT

Hot and cold starts are clean, idle is steady, the engine revs freely, timing advances smoothly, the coil and module do not overheat, and there is no detonation under load.

MODIFIED / 3.4 L ENGINES

Do not automatically use the 3.0 L timing figure. High-compression, camshaft, carburettor and 3.4 L conversions must be timed to the engine builder or tuner specification.

Troubleshooting & Final Checks

Most faults after conversion are caused by distributor phasing, firing-order errors, poor module earth, reduced ballast voltage, or pickup polarity. Work through the basics before replacing parts.

No spark / no start	Verify switched 12 V at the module during RUN and START; check module earth; confirm coil feed and coil negative trigger; inspect cap/rotor/centre lead.
Starts only while cranking	Ignition feed may exist in START but not RUN. Check ignition-switch feed and any ballast/bypass wiring.
Starts but will not rev cleanly	Switch ignition OFF and reverse the two magnetic-pickup leads at module terminals 1 and 2; then retest.
Backfires / kicks back	Distributor may be one tooth out, 180° out, or plug leads may be out of sequence. Re-establish No. 1 compression and firing order.
Intermittent cut-out	Clean and tighten module earth; check spade terminals, crimps, coil connections and wiring near heat/vibration.
Coil or module very hot	Stop and verify coil resistance, ballast arrangement, supply voltage and module mounting/heat dissipation.
Tachometer incorrect / dead	The tachometer may need its trigger moved to coil negative or may require an adapter depending on the original Ford rev-counter design.

Final handover checklist

- ☐ Distributor clamp tight after timing
- ☐ Module firmly mounted to clean earth
- ☐ Harness secured away from exhaust, fan and belts
- ☐ Coil and ballast arrangement verified
- ☐ Engine hot-start and cold-start checked
- ☐ Road test completed with no pinking or high-rpm misfire

ONLINE CAR PARTS SUPPORT

Product: Ford Cortina V6 Essex Electronic Distributor Conversion Service
 Reference: DIST0090
 Phone: 010 970 6009
 Web: onlinecarparts.co.za

Technical references reviewed

1. Online Car Parts, DIST0090 product listing and supplied conversion photographs/wiring sheet. 2. Motomobil - Ford Essex V6 2.5/3.0 technical data: firing order 1-4-2-5-3-6, clockwise distributor rotation, No. 1 cylinder position. 3. Ford Capri 1974 Workshop Manual - 3.0 L ignition timing specification of 10° BTDC. 4. Spitronics TP500 magnetic module wiring documentation and Gotech TP500 pin-function documentation. 5. Burton Power - Ford Essex V6 electronic distributor kit guidance on ballast bypass/full 12 V supply. 6. Powerspark ignition technical notes on ballast resistors and coil matching.