

Jaguar E-type XK6 Complete EFI Conversion Kit Assembly





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This guide is to be used alongside the assembly drawing provided on the website ('Manifold Drawing' & 'Product Drawing') to safely install the kit.

Figures:

Fig. 1-1 = Top-down view of the wiring loom installation

PLEASE NOTE:

- These instructions assume that the OEM Jaguar Manifold and carburettors have already been removed.
- These instructions assume that the coolant has already been drained from the system.
- These instructions assume that the original engine bay wiring loom has been trimmed/removed.
- These instructions assume that the interior trim surrounding the ecu location has been modified/removed.
- These instructions assume that the car is negative earth.
- Ensure the Battery is removed, the coolant is drained and there aren't any potential hazards.



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ELECTRICAL INSTALLATION:

1.) Upon receiving your Jaguar XK6 wiring loom conversion kit, please complete a visual inspection of all the components to ensure no damage has occurred during shipping:



In the package, you should receive:

1X T8 ECU (with mounting hardware). 1X 6 Cylinder wasted Spark Coil pack – SN: 0221 503 002. 1X T8 Jaguar E-type custom loom 1X Magnecor 6 CYL E-type HT Leads 1X Coil pack mounting plate and hardware. 1X Distributor Spigot 2X Extended bung & Plug 2X Bosch LSU 4.9 Lambda Sensor – SN: 0 258 017 025 1X DTA Fast 10 Bar Fluid Oil Pressure Sender 1/8NPT - EPT3100-C-01000-B-5-C 1X Bosch Air Temp Sensor – SN: 0 280 130 039 1X 1 Bar MAP Sensor – SN: 0 261 230 037 1X Bosch ALS/Idle air control Valve – SN: 0 280 140 516 1X Crank Position sensor – WSEN8D 1X Trigger disc



1X Trigger disc mounting hub 3A. 1X Trigger disc mounting hub 3B. 1X Accessory hardware bag 1X Crank sensor post and mounting plate (with hardware) 1X Bulkhead plate (with hardware) 1X Thermostat gasket

2.) First, unpack the wiring loom and using the photos below lay it in the engine bay in the correct orientation. Please note to ensure that the correctly labelled connectors are placed in the correct locations within the chassis (see below):



ECU loom connectors (S80/S100 connector shells):

Bosch 4.9 Lambda sensor connectors:



NOTE: ENSURE THAT 'LAMBDA 1' IS CONNECTED TO THE LAMBDA SENSOR SITUATED ON THE EXHAUST MANIFOLD ATTACHED TO THE 3 CYLINDERS CLOSEST TO THE BULKHEAD (CYLINDERS 1,2 AND 3)





Fig. 1-1: Loom installation



FP = Fuel pump – Use the included long twin core armoured cable (shown below) and lay it out so that the cable goes from the rear of the relay box, out into the engine bay, over to the driver side of the engine bay, then down and under the cars floor pan, then over the rear subframe and into the boot floor.

Electrical parts in this location:

In tank fuel pump

ECU & Relay / Fuse box location - Located on the underside of the firewall in the interior of the car, the ECU & Relay/ Fusebox is the location where all the sensors and power from the cars electrical system terminates to power the system. **Ensure that the ECU and ECU mounting plate is fitted last, to ensure all the electrical connectors are in the correct location.**

When mounting the ECU, please ensure that care is taken when drilling the dash plate. The ECU requires mounting high up the dash plate (towards the passenger seat). The heater hose that runs across the top side of the dash plate, therefore make sure that it isn't punctured!

Ensure that the included wiring loom heat sleeving is correctly installed on the wiring loom along the part of the loom that sits between the block and the firewall.

Electrical parts in this location:

- DTA T8 ECU
- 6 Blade fuse box & twin relay bracket
- ECU loom connectors (S80/S100 connector shells)
- 12V IGN

Jenvey Manifold and Throttle Bodies:

Electrical parts in this location:

- '1,2,3,4,5,6' (Numbered fuel injectors from firewall forward)
- 'Coil' (Connector for ECU to join with the coil pack)
- 'P/GND' (This ring terminal mounts to the firewall. It is recommended that a portion of the cars paint is scraped away to ensure a good ground)
- 'TPS' (Connects ECU to the Throttle position sensor).
- 'AIR' (Connects ECU to Air temperature sensor)
- 'MAP' (Connects ECU to MAP sensor)
- 'WATER' (Connects ECU to Oil pressure sender)
- 'OIL P' (Connects ECU to Oil pressure sender)
- 'CRANK' (Connects ECU to the Crank sensor)

Lambda Sensors – In this location the included BOSCH 4.9 Lambda sensors are installed into the exhaust system to provide the ECU with data to ensure that the fuel mixture is always correct.

Electrical parts in this location:

- 'LAMBDA 1' (This connector plugs into one of the included Lamba sensors)
- 'LAMBDA 2' (This connector plugs into one of the included Lamba sensors)

Battery (Perm 12V) – In this location, the 12V constant feed for the system is supplied.



The long length of wiring loom should be laid in the driver side of the engine bay ready for the kit to be fitted. The loom should also be able to be hidden behind the back of the engine bay, (As shown below):



3.) If the car that you are installing this kit on a series 1 E-Type, then a small modification will need to be made to the passenger side firewall blanking plate. First undo the 4 nuts securing the standard blanking plate to the firewall, then once removed, drill a Ø55mm hole into the face of the plate, ensuring there will be enough room around the edges of the plate to allow correct fitment of the grommet on the loom. If the car is a series 2 E-Type, then there is an included firewall blanking plate within the kit to allow for easy installation of the electrical loom.

PLEASE NOTE:

The wiring loom will need passing through the bulkhead plate before the plate is bolted into

position, (See Below):





IN TANK FUEL PUMP INSTALLATION:

4.) When installing the in-tank fuel pump, make sure that the 'filter sock' is secure on the underside of the pump, and everything is correctly secure. When lowering the fuel pump pickup tube into position ensure that the pump is lowered into the recessed boss at the bottom of the fuel tank (where the original pickup was). Then using the included gasket, apply some fuel safe gasket sealer (not included). And secure the pump in position using the included sealing washers and original hardware.

Now also fit the included metal 3/8" BSP banjo fitting to the bulkhead passthrough

Once fitted, push on the original fuel line and secure in place with the original fixings and make sure that the brass banjo fitting is secure in place.





5.) Now unpack the Fuel pump wire from your kit (shown below). This will need to follow the path indicated by the green wire in fig. 1-1. The end of the wire with the automotive plug will need to be in the boot. Therefore, a hole will need to be drilled in the boot to accommodate the wire.

Also, during this step, use the included 8mm ID fuel hose to link from the fuel pump to original fuel pump hardline situated in the boot.

Now make sure that the included 8mm banjo, bolt and sealing washers is tightened onto the OEM bulkhead boot fuel fitting gland.

Now using the included Ø8mm rubber grommet, feed all the cable through the hole in the boot leaving the automotive plug in the boot with a reasonable length of cable to ensure that you will be able to correctly connect the fuel pump to the rest of the wiring loom (see pictures below):



6.) Now, safely get under the car and feed the remaining length of the fuel pump wiring up and alongside the existing fuel line. Note, it is possible to run the wire through the car, if this is suitable for the customer. And using the included zip ties, tie to the Existing Jaguar E-type fuel line and fuel line clips (as shown below): Please note, if this wiring path is not desirable, then the option of wiring the fuel pump alongside the original loom in the interior of the vehicle has been accounted for in the length of the supplied wiring. If the fuel pump is wired this way, ignore step 8 and wire directly into the rear side of the Fusebox.





7.) Now that the wiring loom is laid in the engine bay, and the fuel pump wire is laid under the car, feed the fuel pump wiring up the front side of the firewall, around the back of the engine. Then finally feed it through the rubber bulkhead grommet situated on the main custom wiring loom and into the passenger footwell. Use the red line in the below pictures to route the fuel pump wiring loom correctly:

PLEASE NOTE:

When passing the loom around the rear subframe and around the front of the firewall, ensure that the loom is correctly secured and kept away from any parts of the car that are hot or could have the loom wrap around it, For example: Driveshafts, suspension components, engine block. ETC.







8.) Now remove the original HT leads and ignition coil as they will not be required. Remove the ignition distributor by removing the ¼" UNF screw that secures the distributor adjustment bracket to the cylinder block.

Fit the coil mounting plate (included in the kit and shown fitted below) to the original distributor mounting position by engaging the mounting plate spigot into the distributor drive location, then securing the coil mounting plate using the new 7/16" UNF hexagonal screw using the plain washer and lock washer.

Once in place, plug in the connector on the wiring loom labelled 'COIL'.





9.) Once coil bracket is in situ, fit the MAGNECOR ignition leads. There will be corresponding numbers on the leads to numbers on the top face of the coil pack, DO NOT FOLLOW THESE. Due to Jaguars engine design, plug the leads into the coil pack as follows:

COIL PACK	LEADS			
1	1			
3	2			
5	3			
4	6			
6	5			
2	4			

Have the leads go up the side of the block and into their corresponding plugs. **Please note**, in a Jaguar E-Type, the 'numbered cylinders' start at the firewall and work forward.





10.)Now you can fit the Oil Pressure sender in the side of the block.

Using the included ½" UNF to 1/8NPT adaptor, thread the adaptor onto the included oil pressure sensor, and then thread the assembly into the side of the block. The port for this is found on the driver side of the engine bay, at the bottom of the block (shown below). Once correctly fitted, plug in the sensor labelled 'OIL' into the rear side of the sensor and tie the sensor cable away from any moving or hot components.



When fitting, it is recommended to use a temperature and oil safe thread sealant on the threads of the adaptor and oil pressure sensor.



11.) Now fit the DTA FAST T8 ECU. Making sure to use the included ECU plate, drill four holes in the roof of the passenger side footwell and secure the ECU in place with the included rivets, ensuring that there is enough room to also mount the fuse/relay box next to the ECU. When mounted, secure the fuse/relay box next to the ECU, making sure to connect the fuel pump live wire into the underside of the slot for the 20 AMP fuse, and the earth to a good chassis/earth connection. (see pictures below):



Shown above is the underside of the Fusebox. Ensure that the live for the fuel pump wiring is now slotted into the correct pin location, and the included 20AMP fuse is situated correctly across the two pins.

Also, now's the time to wire in the correct 12V IGN. First find the 12V IGN wire in the loom, then feed it up the back side of the dashboard, then find a switched 12V ignition source and wire the wire from the new wiring loom into the circuit.

The three ECU plugs should be connected using the above photo, the longest wire goes to the furthest connector, and the shortest wire goes to the closest connector from the bulkhead passthrough. Also, only one of the connectors has a fool proof connection, therefore ensure that the correct plugs are being connected to the correct ports.



12.) Now fit the 'Perm.12V' to the battery lug situated in the passenger side engine bay bin, (as shown below). If not possible, please supply a 12V constant feed to this wire.



13.) Now weld the Lambda sensor bungs into the downpipes (as shown below). Ensure that a good weld is formed around the downpipe bungs to ensure no fumes leak around the bungs or sensor threads. It is recommended that this step is to be undertaken by a professional fabricator, if possible, to ensure high-quality fitment. NOTE: It is required that the Lambda sensor bungs are welded at approximately 10 degrees up from the horizontal plane to avoid moisture build up on the sensor (see below):







14.) Now apply a small amount of copper grease to each of the included Lambda sensors into the bungs and plug 'Lambda 1' & 'Lambda 2' into the lambda sensors and secure to the chassis rail using the included zip ties (as shown below). Making sure to secure all the wires away from any harmful objects (Exhaust, tyres, engine, ETC).



15.) Now fit the included MAP sensor to the firewall of the vehicle and plug in the corresponding wire labelled 'MAP' on the wiring loom.





AUXILLIARY CONNECTION:

- In the wiring loom, there is a 6 pin DTM connector that will allow users to wire in an electronic tachometer, electronic fan, and electronic water pump. Therefore, please follow the below guidance to correctly wire in the auxiliary functions.
- **NOTE**: Jenvey recommend use of a Pierburg water pump due to the use of an internal relay therefore allowing the pump to be wired without an external relay.
- **NOTE**: The fan **will** require an external relay to work.

(Wire from pin insertion side of male connector)



For wiring the auxiliary connections:

Fan Relay	Recommended Pierburg Water Pump		
DTM Pin 1 (12V) to Fan Relay pin 86.	Battery via 30 Amp fuse to EWP Pin 1. Note: Do not connect this to the DTM connector. Doing so will		
DTM Pin 2 (Fan Signal) to Fan Relay pin 85.	melt the wiring loom and connector and may cause a fire.		
Battery to relay pin 30 via 40 Amp Fuse.	DTM Pin 5 to EWP Pin 2		
Relay pin 87 to Fan.	DTM Pin 6 to EWP Pin 3		
	Chassis Ground/Battery Negative to EWP Pin 4. Note: Do not connect this to the DTM connector. Doing so will melt the wiring loom and connector and may cause a fire.		
Tacho - Original with Converter	Tacho - Digital Tacho		
DTM Pin 1 - Converter 12V.	DTM Pin 3 to Tacho directly.		
DTM Pin 2 - Converter Power Ground			
DTM Pin 4 - Converter ECU Signal			
Converter Tacho Signal to tachometer.			



TRIGGER WHEEL INSTALLATION:





To install the crank trigger to the front of the engine bay, please see the following instructions:

- 1.) Remove the two lowest crank case securing bolts (see fig. 3)
- 2.) Replace the two original bolts with the two new 3/8" UNF Studs (9&10), the longer of the two Studs (9) fits the upper of the two locations, (drive belt Tensioner position). Fit and secure the shorter of the two Crank Sensor Columns (11) to this position, with one of the two Plain Washers (12) provided. Next fit the shorter of the two 3/88" UNF Studs (10) to the lower location, then fit the longer Crank Sensor Column (13) using the remaining Plain Washer (12)
- 3.) Assemble the Crank Sensor Post (14) to the (adjustable) Sensor Mounting Plate (15) using the two M5 Screws with the two Plain Washers (17) and Lock Washers (18) provided, (do not fully tighten until adjusted in operation).
- 4.) Next fit the crank sensor (2) to the crank sensor post (14), using the M5 plain head screws (19) and the remaining lock washers (18).
- 5.) Now fit the crank sensor mounting plate assembly to the two crank sensor columns (11 & 13) using the two M6 X 16 Hexagonal Head screws (20) with the 6mm plain washers (21) and crinkle washers (22) provided.
- 6.) Crank sensor gap adjustment Refit the sensor mounting plate assembly to the sensor columns. When securing ensure that it is correctly adjusted to maintain a gap of 0.6mm to 0.8mm between the Trigger Disc (1) and the Crank sensor (2).





CRANKSHAFT PULLEY TRIGGER DISC AND CRANK SENSOR FITTING:

7.) Before fitting the Trigger Disc (1) and Crank sensor (2) ensure No.1 cylinder is at TDC. (if necessary, after removing the drive belt pulley).
PLEASE NOTE:

There are two trigger disc mounting hubs (3A &3B) provided in this kit, the larger (8 hole) mounting hub (3A) is intended for series 1 - 4.2 engines and fits to the twin groove crankshaft pulley part no. C24289.

The smaller (4 hole) mounting hub (3B) is intended for series 2 - 4.2 engines and fits to the single groove crankshaft pulley Part No. C2313. – see assembly order shown in Fig 1.

There are several fixing holes in the trigger disc (1), however the disc will only fit 4.2 litre engines in one position as detailed in operation 5 (below).

- 8.) Remove the drive belt from the crankshaft pulley, then remove the four 5/16" UNF bolts securing the crankshaft pulley and remove the pulley.
- 9.) Check that the Trigger Disc mounting hub (3A or 3B) fits into the recess of the original crankshaft pulley.
- 10.) PLEASE NOTE:

The crankshaft pulley may be corroded, this will need to be removed and thoroughly cleaned to ensure a good fit to the trigger wheel and trigger disc mounting hub (3A or 3B). This is to make sure that the trigger wheel will run concentric to the pulley and therefore the crank sensor (2)

- 11.) Fit the four 5/16" UNF x 2.5" studs (4) loosely into the crankshaft vibration damper (do not tighten) (the studs replace the four original 5/16" UNF bolts) (see fig. 2.)
- 12.)Refit the original or replacement crankshaft pulley onto the studs (4) on the crankshaft vibration damper, now tighten the four studs (4) using the two 5/16" Plain nuts (5) locked together.
- 13.)Next fit the new crankshaft bolt lock tab plate (6) onto the studs (4), then fit the correct trigger disc mounting hub (3A or 3B).

PLEASE NOTE:

When fitting the tab plate (6) first remove the locking tab ears intended for the pulley (original) securing bolts. This is to ensure that the tab plate (6) wing sections engage correctly into the recessed channels on the underside of the trigger disc mounting hub (3).

14.)The trigger disc (1) can now be located onto the mounting hub (3) with the trigger disc missing tooth at the 12 O'clock position and the 2mm hole adjacent to one of the teeth at the 9 o'clock position – see Fig. 6a & 6b.

Then secure the assembly with the four new 5/16" Nyloc Nuts (7) ad bevelled washers (8) provided.

It is important that the No.1 cylinder is still at TDC after tightening the Nyloc nuts (7)

15.)Once fitted, plug the wire labelled 'crank' into the crank sensor loom, and ensure that the wiring is correctly secured away from any harmful parts, such as Exhaust, tyres, engine, tyres, ETC.



MANIFOLD / THROTTLE BODY FITTING:

 Upon receiving your Jaguar XK6 fuel injection throttle body conversion kit, please complete a visual inspection of all the components to ensure no damage has occurred in shipping.



16.)Now fit the mechanical thermostat in the end of the water feature. First fit the thermostat sleeve in the counterbored recess of the water feature. Then fit a Series 2 4.2L thermostat housing and thermostat gasket and torque the bolts to specification. PLEASE NOTE, the customer will have to supply their own Series 2 4.2L thermostat housing, otherwise the water manifold will foul the bonnet. However, the thermostat gasket will be included in the kit.

Photo for illustration purposes only:



Fittings shown below:



17.) Fit the water temperature sender for the original water gauge (not included). Fit the sensor now with a new fibre washer (not included).



18.)Now fit the manifold and bodies to the engine. Please make sure that the manifolds O-rings are lightly greased beforehand to ensure that they retain themselves in the manifold when fitting. Push it on square until the manifold flange is flat to the head, then, using the hardware (not included) tighten up the studs to factory specification.

Photo for illustration purposes only:



It is recommended that the ignition leads are guided into the gap in between the water feature thermostat housing and the rocker covers as this will prove difficult one the manifold Is fully seated. Also, ensure that the **heater pipe bracket** is correctly installed onto the face of the manifold before tightening the manifold nuts.



Plug in the throttle position sensor on the end of the throttle bodies into the plug labelled 'TPS', ensuring that the plug is in the correct orientation to allow it to fully seat on the sensor plug. An audible click should be heard when it has fully seated.

Photo for illustration purposes only:



Photo for illustration purposes only:



Heater pipe bracket





Water temperature sensor fits here. When the manifold is fitted, plug in the sensor marked 'water' to the water temperature sensor fitted to the underside of the manifold and water feature.

Make sure that you plug in the injector cables, marked by the numbers 1-6 starting at the bulkhead.

19.) Now, plum the brake booster system into the fitting on the underside of the manifold on the runner closest to the firewall, as shown below:





20.)Now manoeuvre the idle air control valve up and behind the manifold to rest on the underside of the idle air control bracket. Then loosely wrap two of the included zip ties into place around the valve.



21.)Now using the included 90 degree and T piece fittings, assemble the idle control system onto the underside of the manifold. Then once all the fittings are on and the T piece has been pushed onto the idle air control system, tighten the zip ties on the idle air control bracket and tighten the worm drive clips on the Idle air control valve boss so that the idle air control valve system is secure to the bodies.

Then plug the cable labelled 'IDLE' into the idle air control motor. Once secure, fully tighten the zip ties in place.

Photo for illustration purposes only:



22.) Now using the brackets provided, fit the CLJ-4.2 RH linkage into place.

First, bolt the **D352-L4.2 bracket** (1) into place on the bulkhead. Once this has been completed, thread the **throttle cable** (2) through the bracket and slot it into place on the **linkage quadrant** (3) ensuring that the adjustor is set at halfway. Then thread the cable and the adjustor through the **CLS2-TBU2** (4) bracket and set the adjustor at halfway. Now pull the cable over the linkage quadrant and slot the brass nipple into its housing. Finally pop the original throttle linkage over the ball joint on the **linkage quadrant** (3). Once the linkage kit looks like the images below, place CLS2-TBU2 bracket in the engine bay to later fit.



D352-L4.2



CLS2-TBU2

23.) Now, fit the original heater hose to the end fitting in the water manifold and tighten the original worm drive clip.





24.) Now fit the original main water bypass hose and header tank to thermostat housing hose. Once the hoses are fully seated, tighten the original worm drive clips.



25.)Now install the included CLS2-TBU2 linkage as shown below. To do this, use the two mounting M8 bolts and spacers included in the kit. First remove the two-centre underslung M8 bolts. Then (with the longer bolts included in the kit), fit the CLS1 linkage (as shown below). Once fully fitted adjust the adjustors on both throttle cable brackets to ensure that there is minimal slack in the throttle cable and full throttle can be achieved. Photo for illustration purposes only:





26.) Once the CLS1 linkage is secure, remove the retaining pin (as shown below) and click the linkage arm into place. Once fully seated reinsert the pin to lock into place.Photo for illustration purposes only:





27.)Now thread in the air temperature sensor into the included bracket on the underside of the number 6 airhorn mount. Then plug in the cable labelled 'Air' to the backside of the fitting, and secure with the included M12 lock nut.





28.)PLEASE NOTE: The original breather system will need to be adapted to correctly vent. The customer would need to either have the system vent to atmosphere or fit a catch can (NOT SUPPLIED).



29.) Using the included parts, securely fit the fuel line adaptor, fuel hose, and fuel filter in line with the original fuel line that comes up from the front of the firewall ensuring that the fuel filter is as close to the fuel rail to ensure adequate filtration for the fuel injectors, (See below).

First, tighten the fuel line adaptor onto the end of the OEM fuel line. Then thread the included fuel line over the end of the fitting and secure with one of the included single ear clamps. Fit the included Sytec fuel filter in line with two of the single ear clamps, finally tighten the angled AN female fuel fitting onto the end of the fuel rail and secure with another single ear fuel clamp. PLEASE NOTE, the fuel filter can also be placed in the boot of the car, this would need to be fitted between the bulkhead fuel fitting and the fuel pump outlet.





30.)Now fit the included mesh style filters on the end of the airhorns. This will require you to push the filter over the lip of the airhorn, and then pry the rubber lip back over to secure the filters correctly (as seen below).

Photo for illustration purposes only:





FIRST START UP:

Now the kit is fully installed, refill the coolant back to correct specifications, and plug the battery back into the car's circuits:

Now using a windows-based PC/Laptop, remove the dust cap and plug into the port on the front of the ecu.

Now plug in the included USB stick to your PC/Laptop and download 'DTAFast Ltd T-Win' under the software folder of the directory:

Name	Date modified	Туре	Size	
RECYCLER	31/03/2021 23:19	File folder		
Software	01/09/2021 13:45	File folder		
📙 Wiring Diagrams	07/04/2021 12:13	File folder		
Name	Date modif	ied Type	1	Size
📱 DTAFast Ltd T-Win 5.0.8285.279	51 08/09/2022	13:11 Com	npressed (zipp	207,877 KB
Name	Туре	Compressed size	Password Siz	e
📧 DTAFast Ltd T-Win 5.0.8285.27951	Application	207,877 KB	No	210,500 KB

To do this, open the Application 'DTAFast Ltd T-Win', and follow the following steps as they appear on the user interface.

Once fully installed, please follow the throttle position calibration, as shown in the following video:

https://www.youtube.com/watch?v=QI-tU4mKjdM

Once the throttle position is set, complete final checks that none of the wiring loom or hardware that has just been installed can potentially get damaged.

Now turn the engine over and start the car.

The ECU will be flashed with a 'base map', that has been developed over many dyno sessions and road tests, however it is still highly recommended that you take your vehicle to a reputable tuning specialist with experience tuning electronic fuel injection to ensure that the kit is tuned to your correct setup and configuration.

Now go and enjoy your Jenvey fuel injection!