

## INSTALLATION GUIDE MANIFOLD

### 1 Preliminary note

The stainless 4-branch exhaust manifold is similar to the original Ford RS 1100 X part.



#### 1.1 What you need

You need normal workshop tools. A lift is fine, a car pit is also possible. Let the manifold be mounted in a workshop of experts.

All parts are available in the [www.retrofordgarage.com](http://www.retrofordgarage.com) website shop:

- ✓ 1 stainless 4-branch exhaust manifold
- ✓ 1 flex tube or compensator
- ✓ 8 new studs M8 x 51, 4 new exhaust gaskets, 8 new M8 copper nuts with molded disc (all available as a kit)
- ✓ 1 universal holding bracket or the special type for Fiesta 8/81- (or your individual solution)

Maybe you also need:

- ✓ 1 pipe connector
- ✓ 1 exhaust clamp
- ✓ 2 exhaust rubbers
- ✓ Heat insulating wrap

Just look at the pictures and read this guide. For any questions, don't hesitate to contact me.





Twin carburetors need spark plugs with matching heat value, they are also available in the store / shop website provided by [www.retrofordgarage.com](http://www.retrofordgarage.com).

### 1.2 Decoupling/Flexpipe

Not taking care of decoupling the exhaust manifold from the exhaust pipe under the car properly can cause cracks or damages to your manifold. Simply use a flexible pipe or a compensator. The flexible pipe can be welded in. The exact location must be determined by car, depending on the customer's vehicle. It may in driving operation not touch any other parts or car's floor.

### 1.3 Bracket for the vehicle floor

The exhaust system should be anchored on the vehicle floor to avoid the flex pipe hang down. In the shop on my website [www.retrofordgarage.com](http://www.retrofordgarage.com) you get both universal bracket and a vehicle-specific solution shown below, fits for Fiesta Mk1 with facelift seats (from 08/1981 on).

This bracket can be mounted without drilling the floor panel because the seat screws are used. Such bracket for Fiesta MK1 from 1976 - 8/1981 is in preparation. In these early models you have no seat screws in the floor panel, that's the problem.

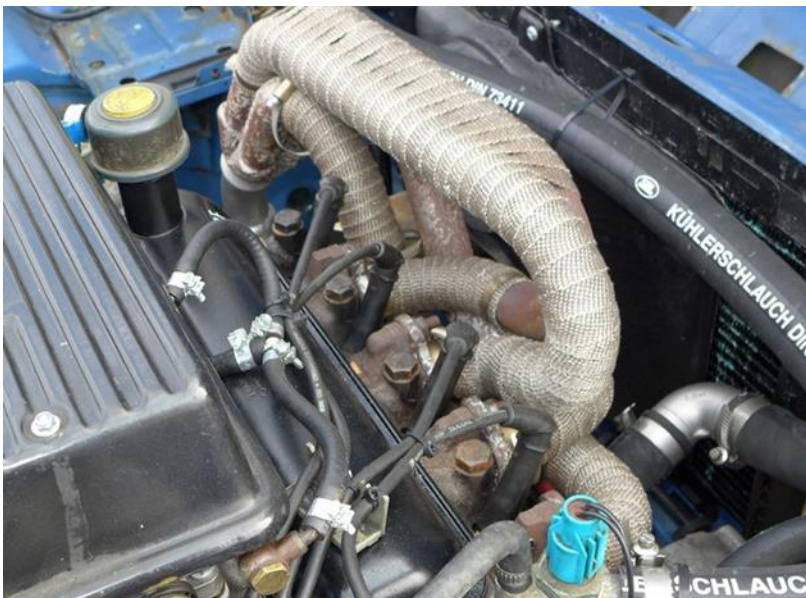


Below you see an example of a self-made bracket with rubber dampers:



#### 1.4 Insulating wrap

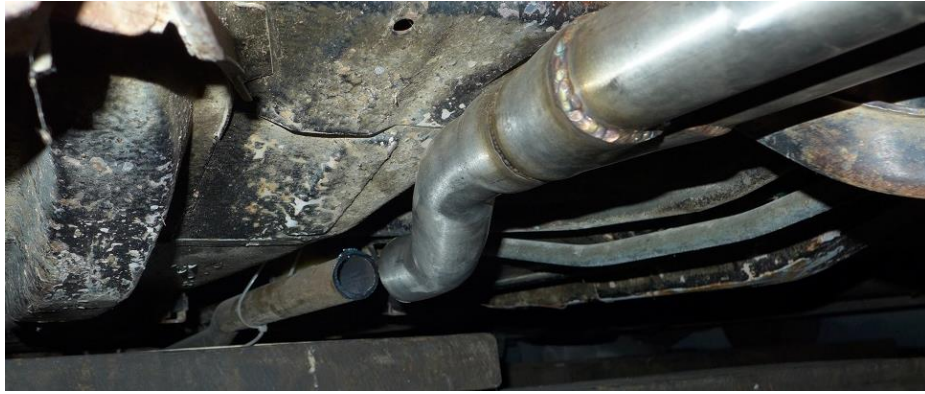
My advice would be to wrap the manifold with heat protection tape. The heat protection tape also covers partially blue coloured steel areas which may possibly occur by lots of heat.



*(Example of heat wrap on another type of manifold)*

## 2 Mounting instructions

- ✓ Disconnect the battery
- ✓ Remove the air filter box
- ✓ Remove spark plug wire
- ✓ Remove water cooler. Stop the radiator hose bleeding or replace fluid
- ✓ Look how long the 4-branch manifold is and cut standard exhaust pipe (not too short)



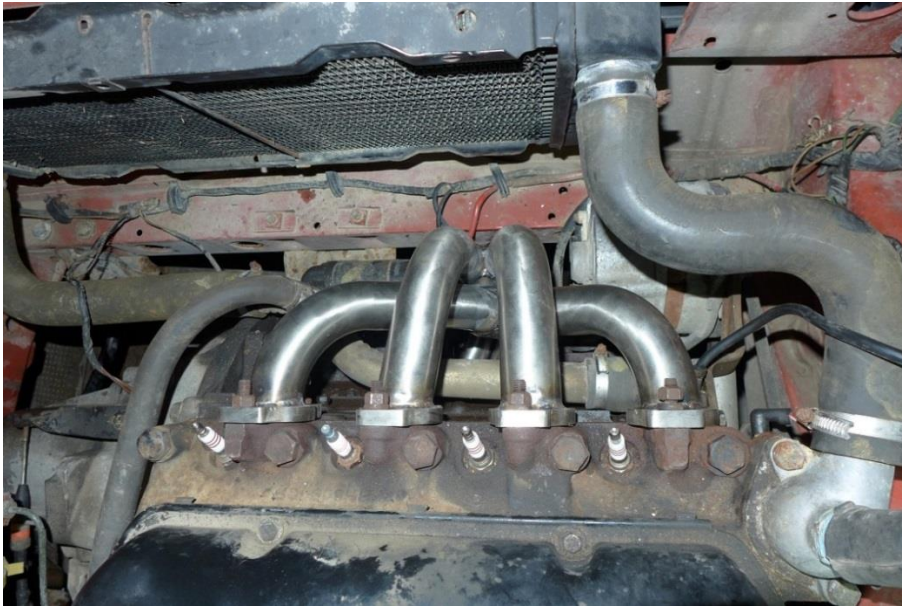
- ✓ Tie up exhaust pipe on the shift rod with cable ties
- ✓ Loosen the nuts from the standard manifold
- ✓ Lift out standard manifold with the exhaust pipe piece
- ✓ Check studs or use the new studs
- ✓ Insert manifold from above into the engine bay, between the starter and alternator.
- ✓ Turn and lift and carefully bring it onto the studs.
- ✓ Hang on the flanges parallel and simultaneously
- ✓ Fix it with standard nuts on the bolts (only for testing, not too much torque)



- ✓ Check the setup under the vehicle (flex pipe, brackets and connection)
- ✓ Find out how long the exhaust pipe finally has to be and cut pipe
- ✓ Fix bracket to the vehicle floor (seat screws or your own solution)
- ✓ Weld flex pipe



- ✓ If you wish, wrap your stainless manifold with heat protection tape before final installing
- ✓ Clean the cylinder head where the new exhaust gaskets have their seat
- ✓ Slide new seals onto the studs
- ✓ Mount stainless manifold with new self-locking exhaust nuts (usually copper nuts)
- ✓ Tighten screws



- ✓ Fix bracket on the car's floor
- ✓ Connect flex pipe, mount clamps and new exhaust rubbers
- ✓ Check and tighten all screw connections



- ✓ Install all the removed parts again
- ✓ Fill your radiator and check cooling system
- ✓ Check the exhaust system by starting the engine for leaks
- ✓ Smoke caused by insulating wrap is normal at first start
- ✓ Make sure that nothing strikes and all parts are well fitted
- ✓ After test drive check cooling system fill and take a look at all parts mounted
- ✓ After 300 miles check all mounted points and elements again

### 3 Some hints if you have 36 Weber DCNF twin carbs installed

Ford Motor Company developed this 4-branch manifold to use it with 36 DCNF Weber twin carburetors. If you drive twin carbs, you should use correct jet data and synchronize your carbs. Ford uses carb nozzles and part sizes shown on data sheet below. These fit with standard engines.

| <u>Technische Daten:</u> |                  |                      |
|--------------------------|------------------|----------------------|
| Vergaser:                | 2 x Weber-Doppel | 36 DCNFA 80/81       |
| Lufttrichter:            |                  | 29 mm                |
| Hauptdüse:               |                  | 1,15 mm siehe Bild 1 |
| Luftkorrekturdüse:       |                  | 1,95 mm siehe Bild 1 |
| Mischrohr:               |                  | F 36 siehe Bild 1    |
| Pumpendüse:              |                  | 0,40 mm siehe Bild 2 |
| Leerlaufdüse:            |                  | 0,47 mm siehe Bild 2 |
| im Rennbetrieb           |                  | 0,50 - 0,52 mm       |
| Nadelventil:             |                  | 1,75 mm              |
| Schwimmerstand:          | "X"              | 54 mm siehe Bild 3   |
|                          | "Y"              | 58,5 mm siehe Bild 3 |
| Co-Soll:                 |                  | 3,5 ± 0,5 %          |
| Leerlaufdrehzahl:        |                  | 1000 ± 50 1/min      |

If your engine got further modifications, the factory settings are different from the required data. This and poorly synchronized twin carburetors lead to high fuel consumption and poor engine running, also promoting high wear.

Especially after some engine part conversions, or having done some work on your cylinder head, if sports or race camshaft is installed, different exhaust system or other modifications, check your final carb setup on a rolling road.

Companies for carburettor remanufacturing and proper setup on rolling road in Germany are IOC in Mülheim-Kärlich or VGS Viktor Günter in Cologne.

Once the correct carb setup is found, you only have to do regular maintenance. With a simple air consumption gauge you can check if the setting still is o.k.

However, much of experience is needed for the absolutely uniform adjustment of the CO - bolts on all four carburetors.

**Thanks for buying - have fun with your Sports Fiesta!**



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