

# Clutch Academy

## Civic 2.2 CTDi



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Schaeffler

REPERT Alistair Mason, is replacing the clutch & dual mass flywheel (DMF) on a 2007 Honda Civic 2.2 CTDi that has covered just under 73,000 miles. The vehicle has been booked in to investigate a rattle/knock from the engine & also clutch judder when pulling away. A quick inspection prior to the workshop appointment, indicated that a worn DMF was causing the noise & also the judder. With a recommended repair time of 5.5 hours, and all repair instructions and service information available through Schaeffler's REPERT information portal, this makes a great repair for any independent workshop.

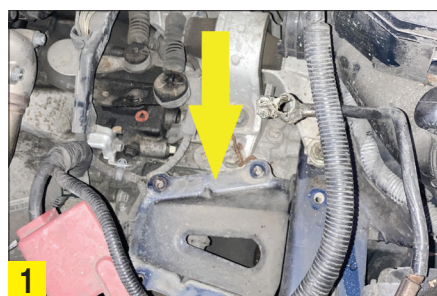
### Workshop equipment used

- Vehicle lift – (two post is ideal).
- Engine support.
- Transmission jack.
- Clutch alignment/Self-Adjusting Clutch tool.

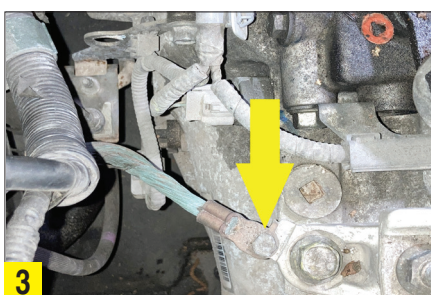
**Note** – Prior to the repair, ensure you have the locking wheel bolt key if required.

### Gearbox removal

With the vehicle placed on the lift, open the bonnet & remove the engine cover and battery. Unclip the wiring loom off the air filter housing, and remove the complete air box/filter assembly the plate that the air filter locates onto. Remove the battery tray and



the bracket the battery tray bolts to (**Fig 1**). Remove the two bolts that retain the clutch slave cylinder (**Fig 2**), and remove the bolt from the small bracket that supports the clutch pipe and position the slave cylinder away from the gearbox. This now gives good access to remove the gear change cables, wiring loom that runs along the top of the bell housing.



Disconnect the gearbox earth strap (**Fig 3**) and remove the top bell housing bolts. With the vehicle still on the ground, slacken both front hub nuts, then raise the vehicle lift to waist height and remove both front wheels. Remove the hub nuts, both bottom ball joint nuts, and disconnect both bottom ball joints from the hub assemblies.

Raise the vehicle to gain access to the underside. Remove the engine and gearbox undertray, and drain the gearbox oil into an oil drainer. While the oil is draining, the lower boost pipe and lower bell housing bolts can be removed. Refit the drain plug and torque as required.



At the back of the engine, remove the exhaust to engine support bracket, and the starter motor bracket (**Fig 4**). This now give good access to the starter motor bolt that needs to be removed. Remove both driveshafts.

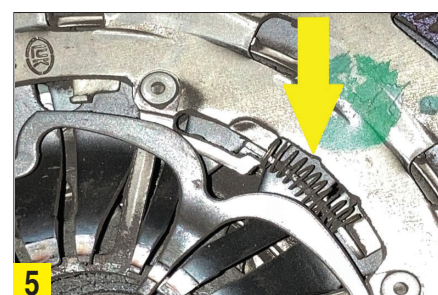
Remove the heat shield & release the centre bearing on the O/S driveshaft.

Support the engine, ideally, using a subframe mounted support (but a second transmission jack or large axle stand also works well).

Remove the complete gearbox mounting from the top of the gear-box, and lower the engine and gearbox slightly to aid gearbox removal. Support the gearbox with a transmission jack, remove the remaining bell housing bolts, and then ease the gearbox away from the engine. Once clear, remove the gearbox from the vehicle and place safely.

### Clutch and DMF removal and replacement

It was evident that this clutch was near the end of its service life, as the self-adjusting clutch springs were near full extension (**Fig 5**). Remove the six clutch bolts from the pressure plate, and remove the clutch assembly. The rotational free play could now be felt on the dual mass flywheel (DMF). Rotational free play & rock specifications can



be obtained on REPERT. It was evident that the DMF had come to the end of its service life, due to excessive rotational free play.

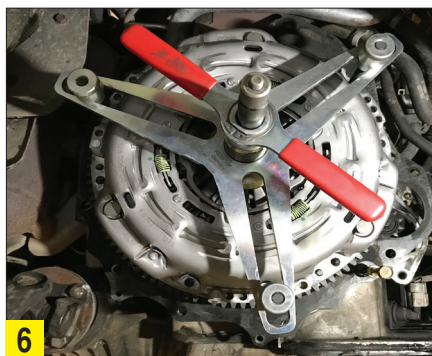
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Remove the six DMF retaining bolt and remove the DMF. Inspect the rear of the engine for any leaks, and rectify as required. Clean the back of the engine with clutch & brake dust cleaner to avoid any contamination of the new clutch & DMF assembly.

Mount the new DMF and insert the new bolts supplied. Tighten in an even, sequential process and then torque the correct value obtained on REPPERT. Finally, degrease the DMF clutch plate surface with clutch & brake dust cleaner.

We now turn our attention to the gearbox. Remove the old release bearing and release arm to check for wear. Also check the bell-housing area for leaks & rectify if required. Apply a light smear of high melting point grease onto the gearbox input shaft splines, then slide the new clutch plate onto the input shaft. This will confirm the clutch plate is correct, and will also evenly distribute the grease,

Remove the clutch plate & wipe off any excess grease, apply a light smear of high melting point grease to the release arm pivot point & then mount the release arm with the new release bearing.



Mount the new clutch using a Self-Adjusting Clutch tool. This will eliminate any risk of the clutch in-correctly adjusting whilst it is being fitted. Degrease the clutch pressure plate face before mounting onto the DMF, ensure the clutch plate is positioned correctly with "Gearbox side" facing out, draw the clutch assembly into position with the SAC tool (**Fig 6**). Insert three bolts & tighten, remove the SAC tool, fit the remaining three bolts and torque to the manufacturer's specification.

Before refitting the gearbox, ensure the engine to gearbox alignment dowels are located correctly, and that the bell-housing area is clear for gearbox installation.

#### Gearbox installation,

Place the gearbox onto the transmission jack, position the gearbox close to the clutch, and spend a little time aligning the gearbox. Once aligned, ease the gearbox into position, ensuring it locates onto the alignment dowels, then insert & tighten two easily accessible bolts. Installation is then in reverse order of removal. Remember to refill the gearbox with the correct specification & quantity of oil. When the battery has been reconnected, reset electrical consumers as required. Finally, carry out a road test to ensure a quality repair.

Information on Schaeffler products, fitting instructions, labour times and much more can be found on the REPPERT workshop portal - [www.reppert.co.uk](http://www.reppert.co.uk) - the REPPERT app, or by calling the Schaeffler REPPERT hotline on (+44) 1432 265 265.

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