HOPPERS STOPPERS FORD 8IN AND 9IN DISC BRAKE CONVERSION KIT

Want to bring your drum-brake-equipped Ford out of the old age and into the new age? Here's how

Brake technology, just like suspension technology and fuel-system technology, has come a long way in recent years. What began in the '60s as a serious attempt to provide adequate braking for performance cars, has ended in an industry where brakes range from supremely adequate to downright phenomenal.

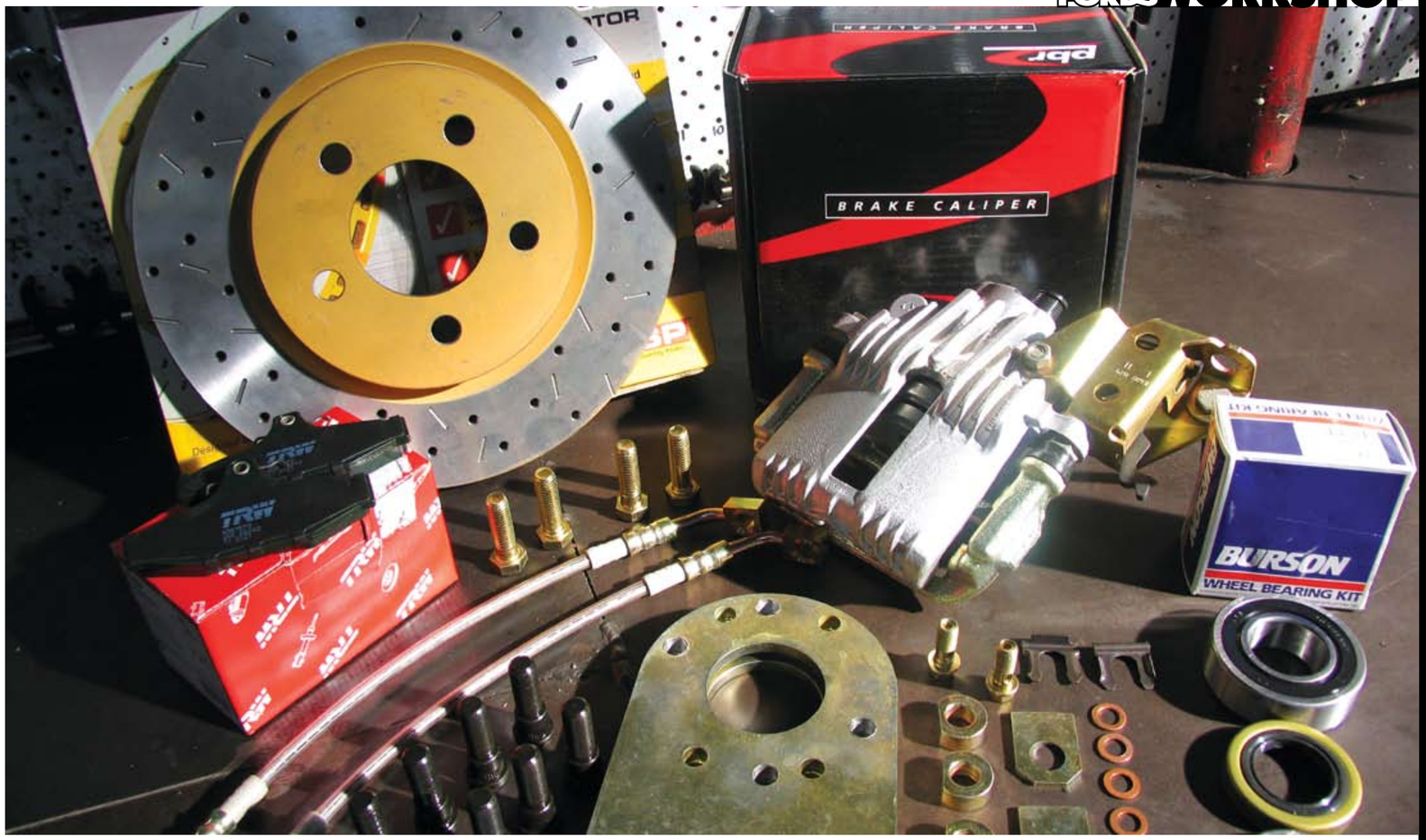
The introduction of components like carbon fibre, sintered metal and lightweight steel, along with the adoption of ABS, have all contributed to reduced stopping distances and generally safer vehicles (though ABS continues to provide controversy).

One of the first steps taken to improve braking came in the early '70s, when manufacturers, on a widespread scale, switched from drum to disc brakes. Since the majority of a vehicle's stopping power is contained in the front wheels, only the front brakes were upgraded to discs during much of this period.

Since then, many manufacturers have adopted four-wheel disc brakes on their high-end and performance models, as well as their low-line economy cars.

Most Falcons out there that have a Ford 9in differential fitted run drum brakes. Few choose to convert them to disc brakes, whether it is for originality or limited driving use. However, with the availability of some exceptional performing, great looking and quality kits, you'd have to be mad not to.

We tagged along with Tom from BT Motorsport in Smithfield NSW, as he installed the Hoppers Stoppers bolt-on 300mm disc brake kit to a Ford 9in-equipped XW GT Falcon.



THE KIT

The Hoppers Stoppers kit comes with all the parts needed to complete the conversion from drum to disc, including brake pads. The only parts not included are the new wheel bearings, as owners may choose to run their own choice of bearing.

The kit being fitted is a 300mm kit with bolt-on brackets to suit any year model of Ford 8in and 9in diff with small bearings only. At this time, the big bearing kit is not available, but will be in the future.

CONTENTS OF THE KIT

- 1 pair of rotors – DBA 2114 300mm diameter by 19mm thick in bolt pattern as required.
- 1 pair of calipers with brackets slides and slide bolts. B821-019/020.
- 1 set brake pads – GDB7570 or DB1086.
- 1 pair of adaptor brackets, bolt-on type.
- 4 M12x1.75x40mm long hex-head bolts and spring washers.
- 4 spacers, 10.5mm thick.
- 2 braided steel hoses to suit.
- 2 banjo bolts.
- 4 copper washers.
- 2 mounting plates to locate the hose end.
- 2 hose retaining clips.
- 10 Ford wheel studs (only if Ford stud pattern specified).
- 3 metal shims.

THE FITTING

1. Safely support the vehicle on axle stands or hoist per maker's jacking instructions. In our case, we used a car hoist.

2. On each side, remove the road wheel to expose the rear brake drum assembly.

3. Remove the drum cover with two hands by prying it off.

4. Remove the four axle bearing retaining nuts and slide the axle out of the housing. Undo the wheel cylinder tube nut, strip the old drum brake shoes off so that the handbrake cable can be disconnected and remove the drum brake backing plate.

5. On leaf spring cars, the caliper handbrake brackets usually fit down beside the spring with the cable just below the leaves. However, if your car has lowering blocks or thick rubber insulators, or the housing to spring length has been shortened, then it may be necessary to position the handbrake just above the spring.

The mounting plates now come with extra holes to allow various positions to be used. Therefore, at this time while the axle is out of the diff, you should

attach the caliper to the bracket with the 10.5 spacers in place, and try the assembly on the housing flange to see where things fit best.

6. You will need to make a measurement to see if any shims will be needed in the final assembly. To do this, we fitted an old bearing the same size as our replacement in the bare housing.

Note that the bearing should protrude by around 3mm, which is usually the thickness of the drum backing plate. As the carrier has a 3mm recess, it should clamp the bearing neatly when tightened.

You may have to install one or two shims of 1mm thickness as supplied with each kit if your bearing protrudes more than 4mm, so that the new carrier plate is not being bent when tightened.

7. The existing pressed tin bearing retaining plate is to be replaced with the machined steel carrier plate. This will require the removal of the wheel bearing and retainer collar off the axle.

We just clamped the axle and gave the retainer collar a wallop with a chisel to loosen it off. To remove the axle, it's best to use a hydraulic press. Discard the retaining plate.

NOTE: Some Australian-supplied 9in diffs had a spacer ring between the retainer and the bearing, with a similar-width spacer between the axle housing and the drum backing plate. This was to space the backing plate out to allow Ford to use narrower rear drums compared to US cars. You should delete these spacers.

8. If you have axles with the early 2.5in centre, you will also need to remove the existing wheel studs and press in the half-inch UNF shouldered studs provided.

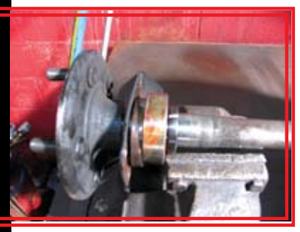
9. Slip the new machined retaining plate on. The recess should go towards the bearing, and the caliper mounting ears need to point in the correct direction so the calipers will fit forward or rear of the axle as required.

10. Press on the new wheel bearings and collars.

11. If your measurements showed they were needed, slip the 1mm shims over the bearing and refit the axle into the housing tightening the four T-bolts.

NOTE ONE:

A handbrake cable will have to be custom made. On some cars, a VN Commodore cable will be an easy adaptation. Contact Hoppers Stoppers if any more details are required on this aspect of the installation.



NOTE TWO:

This brake conversion will increase the track of you rear wheels slightly. This is due to the original drums being thinner in width compared to the disc brake set-up.

The average increase is around 3–4mm. While it doesn't sound like much, you may just want to check tyre clearances if they are already close to your quarter panels.

12. Slip the disc rotor onto the axle holding in place with a couple of wheel nuts for now.

13. Fit the caliper over the disc rotors noting that the handbrake mechanism will be at the bottom. Fit the 10.5mm spacers between the caliper cradle and the steel plate, installing the 12mm bolts and washers, and checking that the caliper is centralised over the disc.

14. As there appears to be variations in axle neck length over the years, it may be necessary to shorten the spacers or add an extra-thin washer as required to ensure the cradle does not rub on the face of the disc.

15. Attach the hoses to the caliper with the supplied banjo bolts with a copper washer either side of the hose fitting. Route the hoses to the differential in a suitable position and mark where the mounting plate should be attached, then weld in place. Attach the hose end with supplied clips and then metal brake lines can be run as required.

16. Fit the supplied brake pads and then remount the caliper, bleed the brakes as per usual and you're done!

OUTCOME?

Armed with the knowledge and experience from driving the XW regularly, the brakes prior to this conversion were fairly ordinary. After all, they are a design from the '60s.

With the conversion completed, it was taken for a test run around the block and the results were obvious. The brake pedal effort required to slow the car was less and the overall brake balance was improved. The conversion was a success!

After speaking to Peter from Hoppers Stoppers, he informed me that the pads and discs will need at least 100km of driving to fully 'bed in' and the brake performance will be further improved.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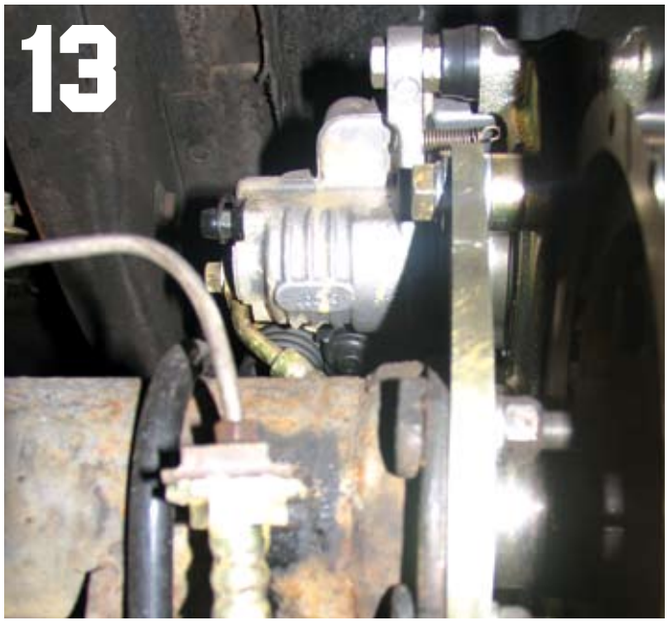
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THANKS TO

HOPPERS STOPPERS

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For a straightforward bolt-on upgrade that'll improve your Ford's braking out of sight, give the guys at Hoppers Stoppers a call. They have a kit to suit your application and budget. More importantly, tell them we sent you!

Special thanks to Peter for supplying the kit for this technical article.

BT MOTORSPORT

Bob & Tom
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Ph: (02) 9604 7352

Huge thanks to the guys here for staying back after-hours to fit the kit. It was greatly appreciated. Service like this is rarely seen these days. Make sure you give these guys a call when you need some work done.

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