

FACTORY MANUAL GEARBOXES

GEARBOX	1	2	3	4	5	6T	REVERSE	MODEL
<b>M20</b>	3.08	2.19	1.51	1.00	-	-	2.54	VB, VC, VH, VK

The trusty old M20 four-speed was found behind six-cylinder Commodores right up until the VK was released. It is not an inherently strong collection of cogs, but over the years, it has proven itself as an adequate backing to the old 202 if treated well.

GEARBOX	1	2	3	4	5	6	REVERSE	MODEL
<b>M21</b>	2.54	1.83	1.38	1.00	-	-	2.54	VB, VC, VH, VK

The M21 is bolted to the business end of the carby V8s Holden offered from the release of the VB right through to the VK. It is a little more resilient than the M20, but still is not to be considered as any kind of strength or performance benchmark.

GEARBOX	1	2	3	4	5	6	REVERSE	MODEL
<b>T5 (V6)</b>	3.25	1.99	1.29	1.00	0.728	-	3.15	VN-VS I

The Borg Warner V6 T5 was first seen poking its trusty shifter through the console of stick-equipped VNs, which the then newly released Buick 3.8L powered.

While it is nowhere near indestructible, the V6 T5 is a reliable performer. Holden continued the T5's tour of duty right up until the Series II VS hit showrooms Australia wide.

GEARBOX	1	2	3	4	5	6	REVERSE	MODEL
<b>T5 (V8)</b>	2.953	1.938	1.337	1.00	0.728	-	3.15	VN-VS

The V8 version of the Borg Warner T5 is considerably stronger than the six, and it is still popular today in the modified performance Commodore scene. Holden blessed 5L Commodores from VN to VS with the box, and HSV also used the V8 T5 with all of its 304ci offerings.

GEARBOX	1	2	3	4	5	6	REVERSE	MODEL
<b>T5G</b>	2.953	1.938	1.337	1.00	0.728	-	3.15	HSV VL

The HSV VL Walkinshaw introduced Holden buyers to what would later become the legendary injected 5L, and the T5G was the transmission entrusted with harnessing its eagerness. Boasting extra splines on the input shaft and a bigger gear set, this box is stronger again than the V8 T5 and is rarely seen on the market today.

GEARBOX	1	2	3	4	5	6	REVERSE	MODEL
<b>MF5</b>	3.321	1.902	1.308	1.00	0.759	-	3.382	VL

The naturally aspirated RB30-powered VL Commodores were gifted with a tough little Nissan box known as the MF5. The MF5 is a fairly strong gearbox and in many instances will hold up even behind lightly modified turbo engines.

It is fairly common and easily sourced – despite the hordes of young VL Commodore owners constantly converting their rides to stick shift. The MF5 is a couple of synchros short of being identical to the gearbox found in turbocharged RB20DET R32 Skylines.

GEARBOX	1	2	3	4	5	6	REVERSE	MODEL
<b>MX7</b>	3.580	2.077	1.360	1.00	0.760	-	3.363	VL Turbo

MX7 is the code used to denote the mighty five-speed box found in the factory turbo VL Commodore. It is big, heavy and strong as an ox. It has proven itself capable of putting up with 300rkwT and 10sec passes on many occasions.

The MX7's downfall is that it is a very notchy gearbox, and after 20 years of hard driving, most examples are starting to show their age. This gearbox is tough to find on the second-hand market.

GEARBOX	1	2	3	4	5	6	REVERSE	MODEL
<b>ZF S6-40</b>	2.68	1.80	1.31	1.00	0.75	0.5	2.50	VN GrpA

The mighty Italian ZF six-speed was fitted to the VN SS Group A, and it is one of the strongest gearboxes ever to grace the trans tunnel of a Commodore.

It can handle an absurd amount of abuse and is found backing many high-performance, highly modified Commodores across the country. The most notable of which is Sean Fardell's MR HDT.

# SHIFTY BUSINESS

THE FIRST LINE OF DEFENCE AGAINST THE VIOLENT AND DESTRUCTIVE HORSEPOWER PRODUCED BY YOUR FIRE-BREATHING COMMODORE IS THE GEARBOX. SO, YOU'D BEST MAKE SURE IT IS UP TO THE TASK

WORDS BY JACK DREWETT PICS SC ARCHIVES



ZF S6-40

Getrag M35 (V8)

GEARBOX	1	2	3	4	5	6	REVERSE	MODEL
<b>Getrag M34 (V6)</b>	3.83	2.04	1.34	1.00	0.82	-	3.21	VS II, VS III, VT, VY

The V6 Getrag box was dubbed the M34, and found its way into VS Commodores from Series II onwards. It features the 3.83 first gear and is a pretty tough little unit.

Owners need to be wary, though, as it is surprisingly expensive to replace should the unthinkable happen.

GEARBOX	1	2	3	4	5	6	REVERSE	MODEL
<b>Getrag M35 (V8)</b>	3.55	2.04	1.34	1.00	0.82	-	3.21	VS II, VS III, VT I

The V8 version of the Getrag five-speed first appeared in Series II VS 304s, and it was used right through to the end of Holden 5L's time on the production line. The gearbox was dubbed the M35 and featured a 3.55 first gear as opposed to the 3.83s found at the front of M34s.

GEARBOX	1	2	3	4	5	6	REVERSE	MODEL
<b>T56</b>	2.66	1.78	1.30	1.00	0.74	0.5	2.90	VR, VS GTS, VT, VY, VZ

The T56 burst onto the scene with the release of the LS1 5.7 in the Series II VT, but it was first used in the HSV GTS and Senator built from VR and VS model Commodores.

The T56 was essentially a cheaper alternative to the ZF, and it can put up with a serious amount of punishment. Holden has used it to much success behind the LS-powered vehicles.

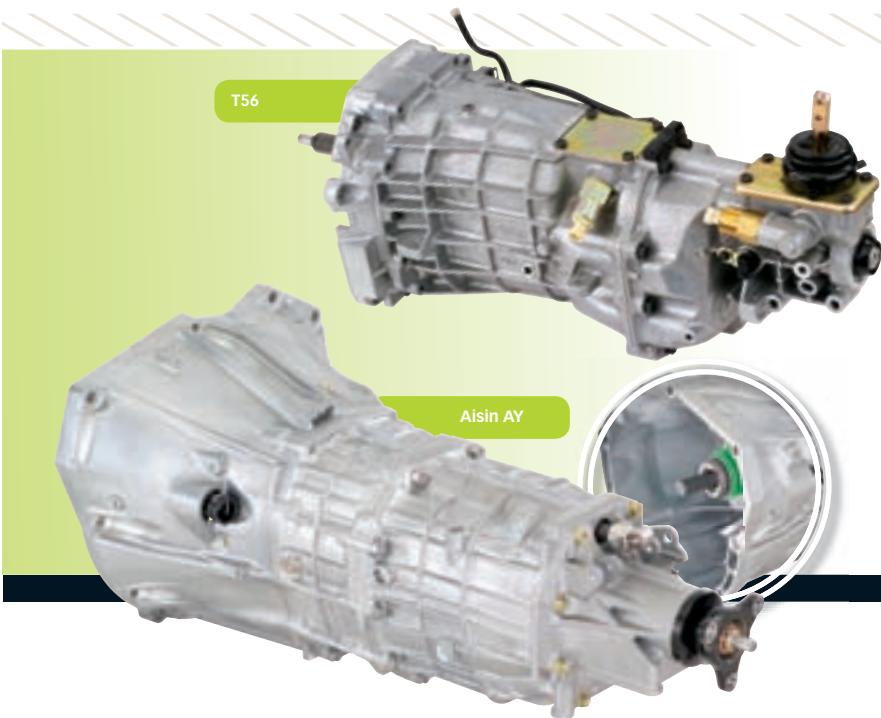
For the release of the VE, the T56 box underwent a pretty major reworking, and it came out into the fray with all guns blazing. Boasting extra synchromesh, shorter clutch action and a tighter gear set, the already tough-as-nails T56 was now a certified weapon.

GEARBOX	1	2	3	4	5	6	REVERSE	MODEL
<b>M12</b>	2.97	2.07	1.43	1.00	0.84	0.57	2.90	VZ HSV & Monaro

The M12 is simply a close-ratio version of the pre-VE T56. It also features a revised shift mechanism that gives the box a more solid shift. It can be found in both the VZ Monaro and VZ HSV.

GEARBOX	1	2	3	4	5	6	REVERSE	MODEL
<b>Aisin AY D173</b>	4.48	2.58	1.63	1.19	1.00	0.75	3.96	VZ SV6, VE

The D173 is the six-speeder used in the SV6. It features an incredibly short first gear that is designed to counteract the insane 2.87 diff ratio that the sporty six houses.



T56

Aisin AY

## FACTORY AUTO GEARBOXES

GEARBOX	1	2	3	4	5	REVERSE	MODEL
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**Trimatic** 2.31 1.46 1.00 - - 1.85 VB-VL  
The well-established three-speed Trimatic was found behind Holden sixes from the VB-VK range, and it backed the eights between the chassis rails of VB-VL Commodores.

When stock, it is not a particularly strong unit. However, in built-up form it is still incredibly popular among drag racers due primarily to the small size and relatively light weight.

GEARBOX	1	2	3	4	5	REVERSE	MODEL
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**TH350** 2.52 1.52 1.00 - - 1.93 VB-VK  
The Turbo 350s were optional on 308ci-endowed VB to VKs. It is a whole lot more robust than the Trimatic, but is not quite as strong as the Turbo 400.

GEARBOX	1	2	3	4	5	REVERSE	MODEL
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**TH400** 2.48 1.48 1.00 - - 2.00 VB-VK  
Again optional for V8 VB-VKs, the TH400 was the toughest auto box Holden offered at the time. The 400 is very popular among drag racers and modifiers across the country for this reason, and it can still be found quite easily in V8-equipped ex-police early girls.

GEARBOX	1	2	3	4	5	REVERSE	MODEL
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**Jatco** 2.458 1.458 1.00 0.686 - 2.18 VL  
The Jatco box was designed and built in Japan, and it can be found in any automatic VL Commodore sporting the Nissan 3L up front.

The MS4 was used in naturally aspirated variants, and the heavy-duty MS1 took care of turbocharged models. Although it shares the same basic gear ratios, there is a world of difference between the two when it comes to strength.

The MS4 is essentially useless for any kind of longevity behind a performance engine. However, plenty of MS1s have found themselves beefed up and scooting down the quarter mile in 10 seconds or less.

GEARBOX	1	2	3	4	5	REVERSE	MODEL
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**4L60** 3.059 1.625 1.00 0.696 - 2.294 VN-VP  
The four-speed overdrive 4L60 (also known as the Turbo 700) was installed in the trans tunnel of all automatic Commodores from VN to VP. It has a cable-operated shifter set-up and lacks the electronic complications of the later models.

Although not the smoothest auto in the world, it is reliable and can be built to handle some serious punishment.





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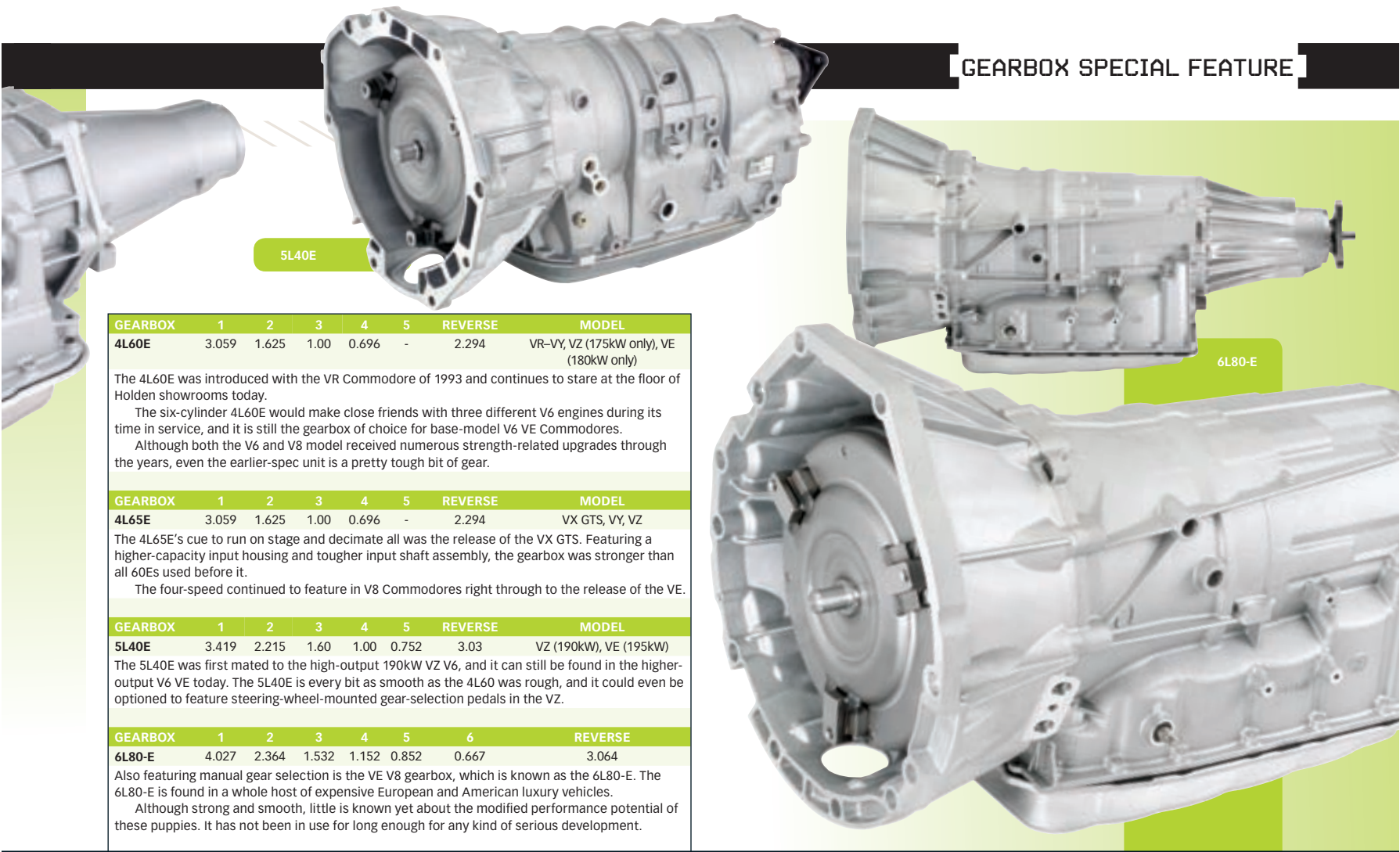
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GEARBOX SPECIAL FEATURE



5L40E

6L80-E

GEARBOX	1	2	3	4	5	REVERSE	MODEL
4L60E	3.059	1.625	1.00	0.696	-	2.294	VR-VY, VZ (175kW only), VE (180kW only)

The 4L60E was introduced with the VR Commodore of 1993 and continues to stare at the floor of Holden showrooms today.

The six-cylinder 4L60E would make close friends with three different V6 engines during its time in service, and it is still the gearbox of choice for base-model V6 VE Commodores.

Although both the V6 and V8 model received numerous strength-related upgrades through the years, even the earlier-spec unit is a pretty tough bit of gear.

GEARBOX	1	2	3	4	5	REVERSE	MODEL
4L65E	3.059	1.625	1.00	0.696	-	2.294	VX GTS, VY, VZ

The 4L65E's cue to run on stage and decimate all was the release of the VX GTS. Featuring a higher-capacity input housing and tougher input shaft assembly, the gearbox was stronger than all 60Es used before it.

The four-speed continued to feature in V8 Commodores right through to the release of the VE.

GEARBOX	1	2	3	4	5	REVERSE	MODEL
5L40E	3.419	2.215	1.60	1.00	0.752	3.03	VZ (190kW), VE (195kW)

The 5L40E was first mated to the high-output 190kW VZ V6, and it can still be found in the higher-output V6 VE today. The 5L40E is every bit as smooth as the 4L60 was rough, and it could even be optioned to feature steering-wheel-mounted gear-selection pedals in the VZ.

GEARBOX	1	2	3	4	5	6	REVERSE
6L80-E	4.027	2.364	1.532	1.152	0.852	0.667	3.064

Also featuring manual gear selection is the VE V8 gearbox, which is known as the 6L80-E. The 6L80-E is found in a whole host of expensive European and American luxury vehicles.

Although strong and smooth, little is known yet about the modified performance potential of these puppies. It has not been in use for long enough for any kind of serious development.

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## AFTERMARKET MANUAL GEARBOXES

GEARBOX	1	2	3	4	5	REVERSE
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**Tremec TKO 500** 3.27 1.97 1.34 1.00 0.82 2.56  
 The Tremec TKO 500 was formerly known as the TR3550. The new name gives an indication to punters of the gearbox's durability, and the five-speeder is capable of dealing with over 500lb worth of torque and a massive amount of punishment and brutality.

An adapter kit is available for the majority of Commodores, and this makes the TKO 500 a strong option for those packing some serious ponies under their right foot.

GEARBOX	1	2	3	4	5	REVERSE
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**Tremec TKO 600** 2.87 1.89 1.28 1.00 0.82 2.56  
 Being the toughest five-speed Tremec has built yet, there is no questioning the potency of the TKO 600. As the name would lead you to believe, the box will laugh at anything below a tyre-melting 600lb.ft of torque.

The first gear is slightly longer than the 500, and cars with enough grunt to warrant the installation of such a gearbox will definitely benefit from this.

GEARBOX	1	2	3	4	5	REVERSE
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**Close-Ratio Toploader** 2.32 1.69 1.29 1.00 - 2.32  
 The short-ratio Ford toploader is a widely used box, and it is normally found behind set ups that need to be kept at the pointy edge of the rev range as often as possible. It is perfect for circuit racing and has proven itself time and again as a tough unit.

GEARBOX	1	2	3	4	5	REVERSE
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**Wide-Ratio Toploader** 2.78 1.93 1.36 1.00 - 2.78  
 While the short-ratio toploader is an ideal circuit-racing gearbox, the wide-ratio version is perfect for a streeter. The gears are nicely spaced apart, and they suit an engine with plenty of torque to pull through them. This is one of the toughest four-speeds available.

GEARBOX	1	2	3	4	5	REVERSE
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**Supra W55** 3.57 2.06 1.38 1.00 0.85 4.091  
 The W55 Supra gearbox is great behind hot Holden sixes and even mild eights. It is the most common of all Supra gearboxes and is a testament to the principle of over-engineering that Toyota carried out with almost all of the Supra-series shifters.

The five-speed can be found in Toyota Supras, Cressidas and Coronas of all things.

GEARBOX	1	2	3	4	5	REVERSE
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**Supra W57** 3.285 1.894 1.275 1.00 0.861 3.768  
 The W57 is very similar to the previously mentioned W55, and the most noticeable difference is the taller gear set. It is good for about 300hp, but it doesn't deal with abusive driving as well as some others in the Supra family.

GEARBOX	1	2	3	4	5	REVERSE
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**Supra W58** 3.285 1.894 1.275 1.00 0.783 3.768  
 As you might have guessed, the W58 is a further step above the W57 as far as development goes. It was first found in mid-1980s Supras powered by the aspirated 2JZ engine, and its strength has made it a very popular gearbox for use in conversions Australia wide.

GEARBOX	1	2	3	4	5	REVERSE
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**Supra Turbo R154** 3.251 1.955 1.310 1.00 0.753 3.18  
 The toughest of all the Supra five-speeds, the R154 is factory rated to handle an enormous 550hp. As you would expect from a gearbox of such strength, it is physically huge. The R154 is one of the most desirable five-speeds in existence and commands an absolute premium on the second-hand market.

GEARBOX	1	2	3	4	5	REVERSE
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**Toyota Steel Case (W50)** 3.287 2.043 1.394 1.00 0.853 4.039  
 The Toyota Steel Case (aka the W50) was available in the 1978-81 Celica. It is not an inherently strong gearbox, but it is cheap. It is best considered as a quick upgrade from the M20 or M21.

GEARBOX	1	2	3	4	5	REVERSE
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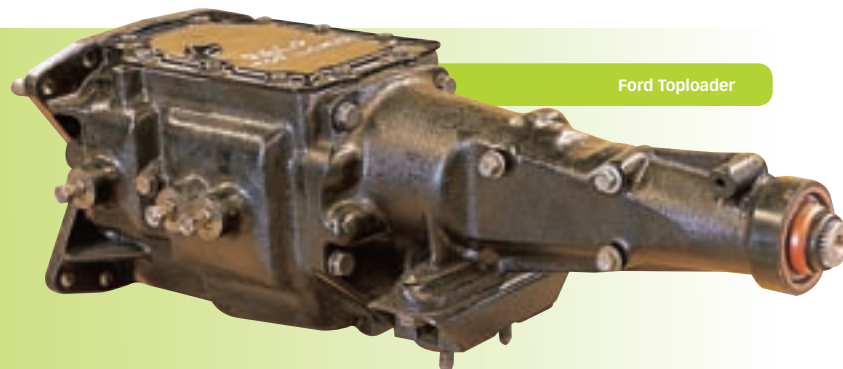
**Toyota Split Case (T50)** 3.587 2.022 1.384 1.00 0.861 3.484  
 Like the Steel Case, the Split Case (T50) is a cheap option when it comes time to source a gearbox for your Holden-six-motivated early girl Commodore. It was found in Coronas, Celicas and Corollas during the early 1980s, and it can be adapted to almost any application.

GEARBOX	1	2	3	4	5	REVERSE
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**Nissan Skyline R33 RB25DET** 3.214 1.925 1.302 1.00 0.752 3.369  
 The skyrocketing price of MX7 gearboxes combined with the age and crude shift feel meant that VL owners went looking for a better solution to their gearbox woes. They found it.

The R33 five-speed has burst onto the VL Turbo scene in recent years. It is readily available, stronger than even the MX7 and has an excellent shift feel thanks to the twin synchros on the first three gears.

The conversion into a VL is a very simple and increasingly popular one.



Ford Toploader

## AFTERMARKET AUTO GEARBOXES

GEARBOX	1	2	3	4	5	REVERSE
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**Ford C4** 2.46 1.46 1.00 - - 2.20  
 The Ford C4 is legendary on the drag-racing circuit. With the right internals and the right converter, the mighty three-speed from the Blue Oval will take any kind of punishment you could possibly wish to throw at it

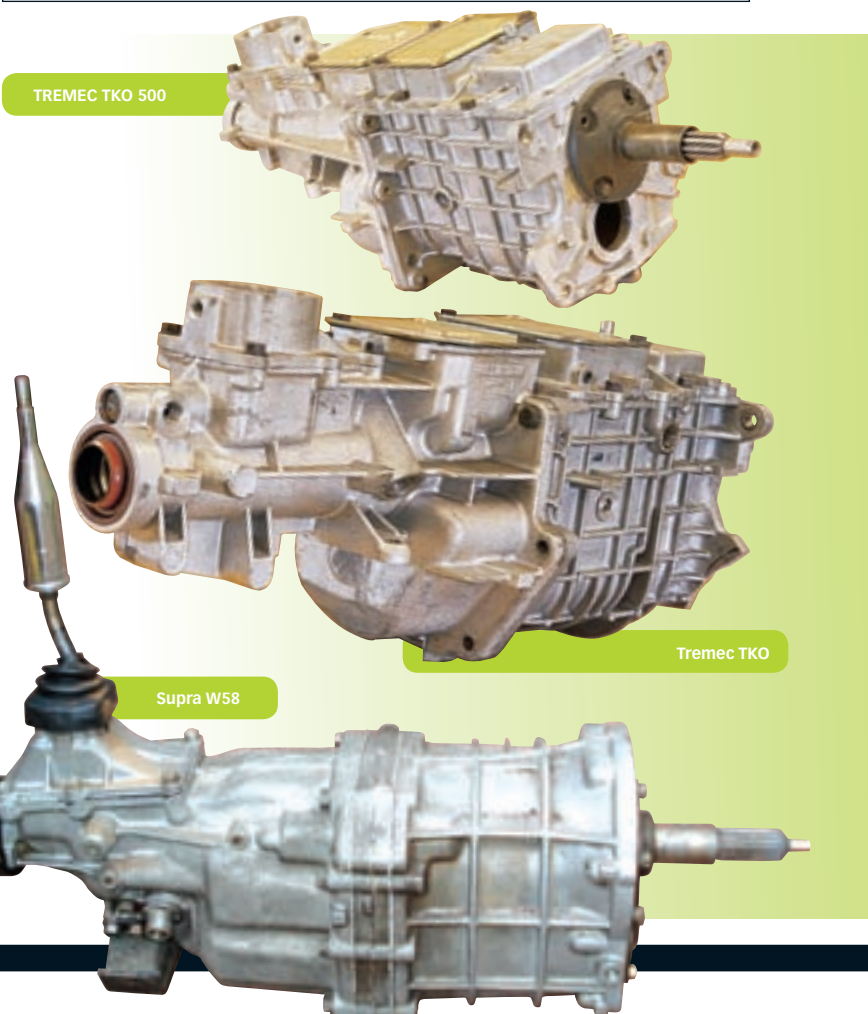
GEARBOX	1	2	3	4	5	REVERSE
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**Powerglide** 1.76 1.00 - - - 1.76  
 A built two-speed Powerglide is about as extreme as automatic gearboxes get. It loves nothing more than passing 1000 crank HP through to super-sticky drag-racing slicks at full throttle and the blip of the transbrake button.

Chasing down a time slip somewhere on the scary side of the single-digit zone is where this monster belongs. Having just two gears, daily driving (especially anything involving prolonged periods on the highway) is well and truly out of the question.

GEARBOX	1	2	3	4	5	REVERSE
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**4L80E** 2.48 1.48 1.00 0.75 - 2.08  
 The 4L80E was introduced in 1991 to retire the TH400, and it is stronger again than its 4L60/65E predecessors. The 80E will happily take 750hp when filled with all the good bits, and it is a great box behind super-high torque set-ups.



TREMEC TKO 500

Tremec TKO

Supra W58