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**How To:** Type 9 gearbox tutorial

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**Thread: Type 9 gearbox tutorial**

Thread Tools

18-03-2009, 20:54 #81

**Ratters**

I support TS

[Site Supporter](#)



**My 1st Project**  
 Join Date: Mar 2004  
 Location: Bristol  
 Posts: 13,292  
 Thanks: 72

**Re: Type 9 gearbox tutorial**

does the speedo drive from the 4 speed fit the type 9?   
 i have heard of people saying the type 9 is miles out on the speedo whereas i know at the moment my speedo is only a little bit out

>> [LeeRatcliffePhotography](#) <<>> [Flickr](#) <<>>  
[FaceBook](#) <<

Thanked 104 Times in 98 Posts



Reply With Quote

19-03-2009, 19:19

#82

**Ratters**

I support TS

Site Supporter



My 1st Project

Join Date: Mar 2004

Location: Bristol

Posts: 13,292

Thanks: 72

Thanked 104 Times in 98 Posts

**Re: Type 9 gearbox tutorial**

plus what's all this about circlips holding the speedo drives in?



>> [LeeRatcliffePhotography](#) << >> [Flickr](#) << >>  
[FaceBook](#) <<



Reply With Quote

31-03-2009, 15:01

#83

**RWD fords rule**

Racer



Join Date: Feb 2006

Location: Ireland

Age: 29

Posts: 3,308

Thanks: 153

Thanked 262 Times in 235 Posts

**Re: Type 9 gearbox tutorial**

Originally Posted by [senuwees](#)

*hi guys, im also fitting a T9!! stripped the 1st gear on my 4spd cluster soft!! how strong is the T9??* 🙄



**Old post but I am going to reply anyway.**

**The type 9 box has shorter layshaft needles supporting the gear cluster so it is weaker than the type E.**

**Also the first gear ratio is very similar if not the same so it could also strip its teeth.**

**The strongest type 9 is the 2.8 capri box, it has stronger bearings and a taller first gear which would have more teeth in engagement and should not fail with 200bhp+**

**Jason**

**Reply With Quote**

#84

24-04-2009, 13:33

**Spotmatic** ◊

Bodger

Join Date: Sep 2007  
 Location: The Netherlands  
 Age: 29  
 Posts: 98  
 Thanks: 2

Thanked 2 Times in 2 Posts

**Re: Type 9 gearbox tutorial**

How do the people like the position of the T9 gearlever compared to the original position? In my opinion the original position (Type-E) is nice and close to the steeringwheel. I'm afraid the position of a T9 gearlever will be to far from the steeringwheel.

So for the people who have converted; how do you like/compare the new gearlever "feeling"?

Cheers,

Mark

**Reply With Quote**

24-04-2009, 17:04

#85

**Ratters** ◊

I support TS

**Site Supporter**

My 1st Project

Join Date: Mar 2004  
 Location: Bristol  
 Posts: 13,292  
 Thanks: 72

Thanked 104 Times in 98 Posts

**Re: Type 9 gearbox tutorial**

don't really notice the difference to be honest 🤔 & my type 9 has only been in a month or so 🙄

>> [LeeRatcliffePhotography](#) << >> [Flickr](#) << >>  
[FaceBook](#) <<

**Reply With Quote**

14-06-2009, 17:12

#86

**dirkvanginneke** ◊

Tyre Kicker

Join Date: Jun 2009  
 Location: Eindhoven, the Netherlands  
 Age: 27  
 Posts: 3  
 Thanks: 0

Thanked 0 Times in 0 Posts

**Re: Type 9 gearbox tutorial**

Hello i'm from the Netherlands and new here. I've got a question:

If you have a Mk2 1.3 automatic and you want to put a 2L pinto and T9 gearbox in it, then:

- engine sump should be Alloy RS2000?
- you can use original gearbox mounts?
- you can use original propshaft from automatic?

- do you have to modify the gearstick hole on the tunnel (backwards, or is the automatic hole big enough? If not, how

far should you move the hole?

thanks,

Dirk

*Last edited by dirkvanginneke; 14-06-2009 at 17:17.*

**Reply With Quote**

14-06-2009, 17:53

#87

**Miniliteman** ◊

I support TS

**Site Supporter**



Join Date: Feb 2004  
 Location: the Netherlands  
 Posts: 2,366  
 Thanks: 2  
 Thanked 201 Times in 186 Posts

**Re: Type 9 gearbox tutorial**

Dirk,

welcome. Now you have asked that question 3 times in 3 different forum-sections. Once is enough. Have a read through this thread and if there are any questions left, post them here.

Tot ziens, Leon.

**Reply With Quote**

19-06-2009, 12:41

#88

**Spotmatic** ◊

Bodger

Join Date: Sep 2007  
 Location: The Netherlands  
 Age: 29  
 Posts: 98  
 Thanks: 2  
 Thanked 2 Times in 2 Posts

**Re: Type 9 gearbox tutorial**

Originally Posted by **Ratters**

*don't really notice the difference to be honest 🤔 &  
 my type 9 has only been in a month or so 😊*

Ai, a bit late but thanks! It's hard to follow the questions you've asked as there is no function to see the reactions on your post.

So the new gearlever position doesn't conflict with the handbrake and doesn't feel unnatural?

**Reply With Quote**

05-07-2009, 10:51

#89

**AvantSE** ◊

Mechanic

Join Date: Aug 2006  
 Location: Yorkshire  
 Posts: 506  
 Thanks: 19

Thanked 5 Times in 4 Posts

### Re: Type 9 gearbox tutorial

Mine has the Sierra crossmember - it makes the 'box sit too low and certainly doesn't need spacing downwards. The car is about to get the floor plated to strengthen it, and a custom mount made up from flat plate with the Sierra rubber fitted to the centre.

"TEA! FIVE SUGARS."

**Reply With Quote**

13-07-2009, 14:23

#90

### RWD fords rule ◊

Racer



Join Date: Feb 2006

Location: Ireland

Age: 29

Posts: 3,308

Thanks: 153

Thanked 262 Times in 235 Posts

### Re: Type 9 gearbox tutorial

#### Type 9 gearbox modifications

**I am rebuilding my quaife clubman type 9 gearbox at the moment and I have discovered a few weak points in the gearbox that can be improved upon, all of the modifications can also be done to a standard gearbox.**

**Here are most of the gearbox parts**



**Input shaft on left, mainshaft with all of its gears left in place.**

**1st gear its the largest, 2nd is the next step smaller, 3rd another step smaller, 4th gear is on the left (part of imput shaft), 5th gear is the smallest which is an overdrive gear.**



**Layshaft cluster, (5th gear is missing in this pic, it goes on the end splines).**





**Layshaft which supports the layshaft cluster above, the layshaft does not turn.**



**Layshaft needle bearings and end washers, the needle bearings allow the Layshaft cluster to rotate on the stationary layshaft.**

**Longer heavy duty layshaft needles can be fitted as shown here.**

**Normally there are 3 washers and shorter needles, when using the longer needles discard one washer and fit as normal, replace layshaft if there is any wear on it at all, this one will be replaced.**



**Gearbox casing, showing where the layshaft is held tight in the casing (the small hole towards the bottom of the casing)**



**Now getting back to the mainshaft, all of the gears spin on the mainshaft until they are engaged, when in gear the mainshaft turns at the same speed as whichever gear you are in, however every other gear is slipping on the mainshaft.**



**Here is how the mainshaft gears are lubricated, see the small holes at the side of these gears, there are three of these small holes in each gear, you might be wondering how oil ever gets in there when the gears are spinning as the mainshaft gears are not submersed in oil, the layshaft cluster throws oil up onto the mainshaft as it turns.**

**The problem is the mainshaft gears tend to wear out the mainshaft over time as a result of oil starvation.**



**Bare mainshaft with gears removed**



**This is where 1st gear spins on the mainshaft, surprisingly there is very little wear here.**



**Here is where 2nd gear spins on the mainshaft, notice the blue colour and wear on the shaft, the mainshaft can be used again but it would be very wise to increase the oil supply to every gear and also not to use too thick of a gear oil.**





**3rd gear**



**5th gear, notice the direction of the splines on the mainshaft, and how 5th gear only wore on one side, this is because 5th gear is almost always spinning faster than the mainshaft, in 1st, 2nd 3rd and 4th, the direction of the oil grooves is starving the oil from the left hand side in this pic and feeding oil to the gear on the right hand side of the gear, this is why there is almost no wear on the right hand side. It is a mass production error as the splines on the left should be spiraling in the other direction, it should look like a tractor tyre thread pattern if you know what I mean.**

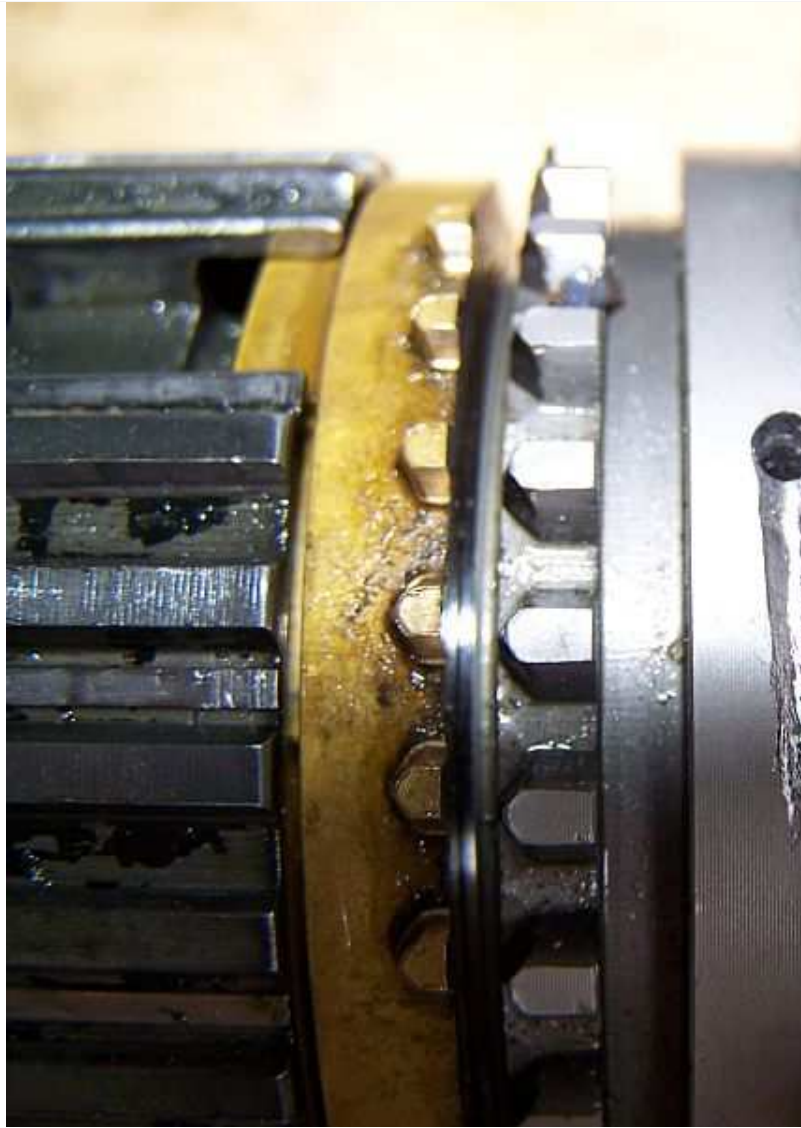


**Inside of 2nd gear, notice the dark rings where there is obvious oil starvation issues.**



**Modification to mainshaft gears to increase oil supply to where they spin on the mainshaft, similar to tear dropping a crankshaft.**

**Use a 2mm and 3mm carbide burr in a dremel to create an oil scoop, radius the entry into the hole on one side and leave the other side as standard to act as the oil scoop.**



**Very important is to note which way each gear spins on the mainshaft, they all turn clockwise when standing in front of the the input shaft end, (as all ford engine turn clockwise)**



**Carefully modify 5th gear in a similar way, gringing a small amount of material away where I have marked it with tipex, being carefull not to touch the gear teeth.**



That's all for today 🍷👍

Regards  
Jason

Reply With Quote

The Following 2 Users Say Thank You to RWD fords rule For This Useful Post:

bortaf, motorpoint

13-07-2009, 23:56

#91

**alladdin** 🟢

I support TS

Site Supporter



My 1st Project

**Re: Type 9 gearbox tutorial**

good info 🍷👍 🎉

**My 2nd Project**

Join Date: May 2005

Location: s.wales

Age: 49

Posts: 6,691

Thanks: 27

Thanked 154 Times in 153 Posts

[Reply With Quote](#)

14-07-2009, 13:45

#92

**RWD fords rule** ◊

Racer



Join Date: Feb 2006

Location: Ireland

Age: 29

Posts: 3,308

Thanks: 153

Thanked 262 Times in 235 Posts

**Re: Type 9 gearbox tutorial****Update**

**I just had another look at the difference in length between the short and long layshaft needles, the difference in length is actually 2 washers, so remove two washers when upgrading to the longer needles, fit only one washer on each end of the long needles.**



**The difference in length is two of the washers, there are 21 of these needles so you can imagine the difference in surface area, much better setup.**



**The longer needles are designed for the type-E 4 speed version of the type-9, it uses the short needles on one end of the layshaft and the longer ones on the other end, only using 19 needles each end instead of 21 in the 5 speed, (due to the slightly larger diameter layshaft in the type-9)**



**Modified 2nd gear**





**Modified 3rd gear**



**Modified 5th gear, go easy with the grinding on 5th as you don't want to create a weak point, just give the hole a slight radius on the side closest the centre of the gear teeth.**



**Ball shape carbide cutters are best for this, use a 3mm cutter for the channel and a 2mm cutter for making the radius into the holes.**



**Here is a potentially big problem with the type-9 if not serviced regularly.  
1st-2nd-3rd and 4th gear baulk rings will eventually crack at these two weak points shown below, I couldn't find a cracked baulk ring to show you as I recently threw them away but they crack where I have tipexed this old baulk ring.**

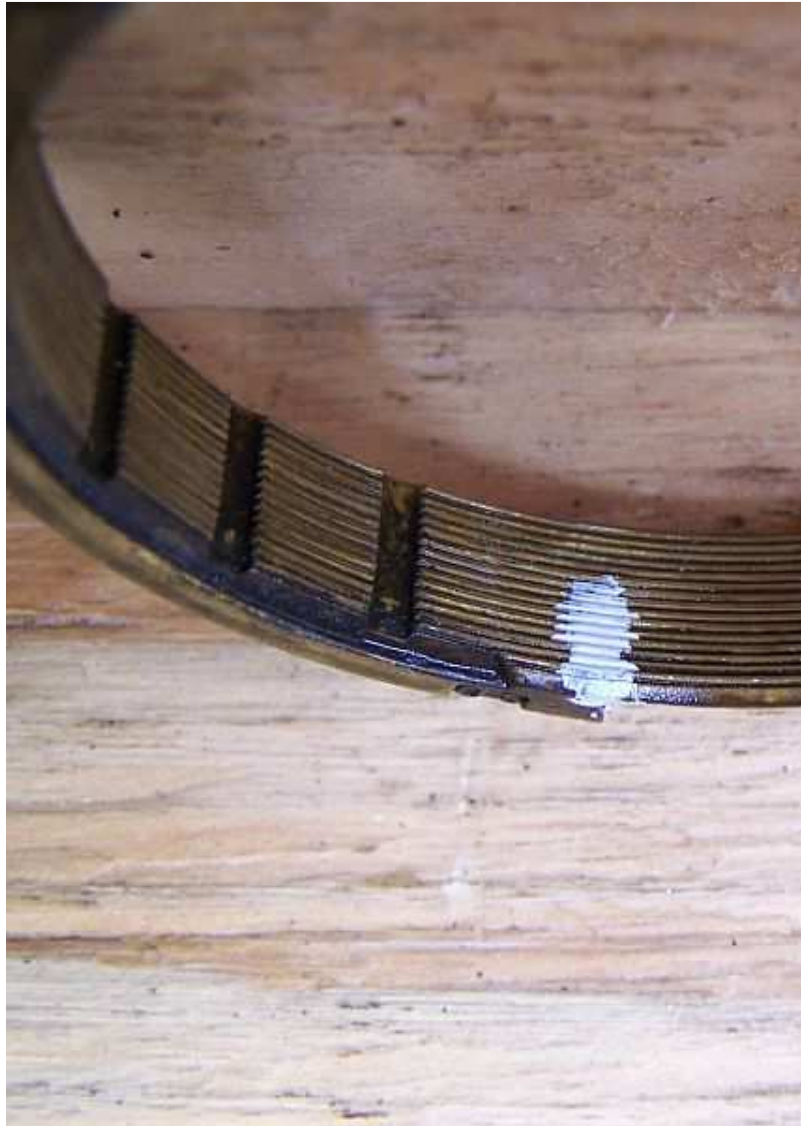


**When used in competition they always crack right in the corners shown here.**





**The cracks then spread across the baulk ring and sooner or later your gearbox will most likely stick in whichever gear the baulk ring belongs to.**



**You can buy steel baulk rings from quaife which are much stronger but that causes a bigger problem as it wears out the mainshaft gears, the synchro taper is now working with steel against steel instead of brass on steel and it is much cheaper to replace the brass baulk rings than replacing gears!**

**My advice is to regularly replace the baulk rings, every season or so in a rally or race car, then you shouldn't have any trouble so long as you do use the clutch lol.**

**Here is a new baulk ring shown on the right and old on left.**



That's all for now 😊

Jason

Reply With Quote

15-07-2009, 00:20

#93

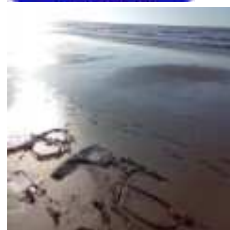
**dangerousdave** ◊

Moderator

Decade+

Site Supporter

Moderator



My 1st Project

Join Date: Oct 2002

Location: London

Age: 27

### Re: Type 9 gearbox tutorial

Really interesting stuff 🤔

In the last pic of the old and new baulk rings together is the new one the other way up to the old one?

Posts: 18,122  
 Thanks: 68  
 Thanked 248 Times in 245 Posts



[Reply With Quote](#)

15-07-2009, 04:39

#94

**Graham** o

Moderator+

**Site Supporter**  
**Moderator**



[My Race Car](#)

[My 1st Project](#)

Join Date: Feb 2006

Location: Cambridge,  
 Cambridgeshire, United Kingdom

Age: 46

Posts: 15,839

Thanks: 55

Thanked 855 Times in 813 Posts

## Re: Type 9 gearbox tutorial

Originally Posted by **dangerousdave** »

*In the last pic of the old and new baulk rings together is the new one the other way up to the old one?*

yes



[Reply With Quote](#)

15-07-2009, 13:28

#95

**RWD fords rule** o

Racer



Join Date: Feb 2006

Location: Ireland

Age: 29

Posts: 3,308

Thanks: 153

Thanked 262 Times in 235 Posts

## Re: Type 9 gearbox tutorial

Originally Posted by **dangerousdave** »

*In the last pic of the old and new baulk rings together is the new one the other way up to the old one?*

Yes

[Reply With Quote](#)

15-07-2009, 14:20

#96

**RWD fords rule** o

Racer

## Re: Type 9 gearbox tutorial

**Update**

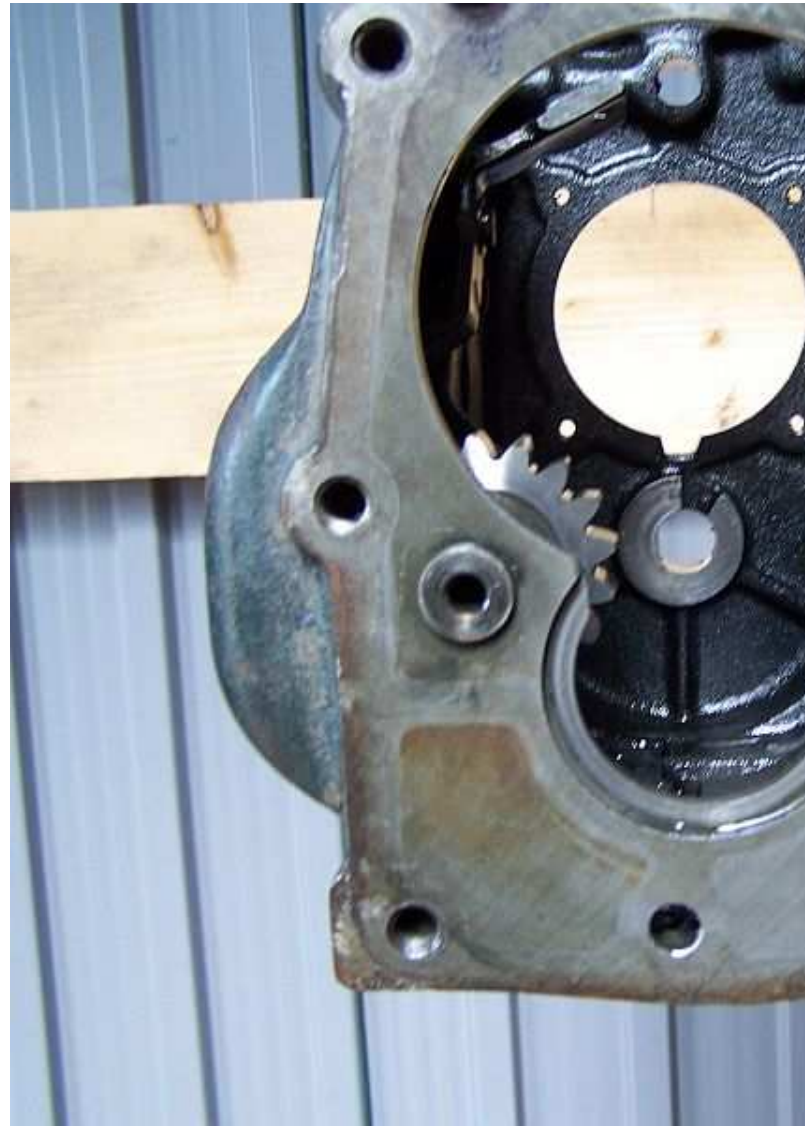


Join Date: Feb 2006  
Location: Ireland  
Age: 29  
Posts: 3,308  
Thanks: 153

Thanked 262 Times in 235 Posts

**Here is how to increase oil supply to 5th gear.**

**The small 10mm hole towards the bottom of the casing in the middle is the only oil supply to 5th gear.**



**That hole matches up with the 5th gear sandwich plate, (again the hole in the centre of this pic).**



**5th gear oil supply channel inside gearbox casing.  
As you can see the oil channel is much larger than the  
10mm oil hole at the end.**



**Simply drill the oil supply hole in the main casing and the sandwich plate out to 12.5mm and countersink afterwards to increase the oil supply to 5th gear.**





**Modified casing**



**Inside casing, the 12.5mm hole is the full width of the oil channel.**



**Enlarged hole in sandwich plate, also remember to increase the size of the oil hole in the main casing to sandwich plate gasket.**



### **How to increase oil supply to rear mainshaft bearing**

**Here is a pic of the sandwich plate, the tipex shows the area to modify.**



**There is a square corner here that restricts the oil flow into the mainshaft bearing.**



**5th gear on the layshaft cluster picks up oil and throws it up towards the area I have tipexed in this pic, see how the corner restricts how much oil gets thrown up into the rear mainshaft bearing above.**



**Modified sandwich plate, narrow this section down to a few mm thick and radius off the corner so much more oil can be thrown into the mainshaft ball bearing.**







### **Another area to modify**

**Here is a pic of the tail casing, showing the speedo gear bung, if this comes loose almost all of the gearbox oil will leak out and quickly destroy the gearbox, drill and wire this bung to make sure it stays there, if it got loose the wire stops it from coming out and you will notice the oil leak before damage is done, alternatively you could fit a few short roll pins in there.**



More info to come 😊

Jason

Reply With Quote

15-07-2009, 17:14

#97

**RWD fords rule** ◦

Racer



Join Date: Feb 2006

Location: Ireland

Age: 29

Posts: 3,308

Thanks: 153

Thanked 262 Times in 235 Posts

**Re: Type 9 gearbox tutorial**

**How to increase oil feed to rear layshaft roller bearing.**

**Look at the two steps where the bearing goes into the sandwich plate, the lower half of the bearing housing has been relieved on a milling machine to increase the gap between 5th gear and the sandwich plate so that far more oil can flow into the roller bearing.**



**This can easily be done with a die grinder, the lower half of this bearing support should be machined so that it is about 4mm lower than the upper half.**

**Regards  
Jason**

*Last edited by RWD fords rule; 15-07-2009 at 17:16.*

**Reply With Quote**

23-07-2009, 13:55

#98

**Group4\_Mark2** ◦

Pit Crew



Join Date: Dec 2004  
Location: Ireland  
Age:

**Re: Type 9 gearbox tutorial**

Good work there Jason. I have always had a major dislike for gearboxes. Having read this I have a new found interest.

Tom

42  
 Posts: 1,738  
 Thanks: 20  
 Thanked 61 Times in 48 Posts

**Reply With Quote**

24-07-2009, 12:15

#99

**RWD fords rule** ◊

Racer



Join Date: Feb 2006  
 Location: Ireland  
 Age: 29  
 Posts: 3,308  
 Thanks: 153  
 Thanked 262 Times in 235 Posts

**Re: Type 9 gearbox tutorial**

Originally Posted by **Group4\_Mark2**

*Good work there Jason. I have always had a major dislike for gearboxes. Having read this I have a new found interest.*

*Tom*

Glad to help 🙌

Most gearboxes are pretty easy to build, especially rwd ones, it looks very complicated at first but when you get stuck into it taking your time to study how everything works it gets much easier.

Regards  
 Jason

**Reply With Quote**

06-08-2009, 11:44

#100

**Arieke** ◊

Spanner Monkey



[My Race Car](#)  
 Join Date: Dec 2008  
 Location: Belgium, Zandhoven  
 Age: 27  
 Posts: 419  
 Thanks: 37  
 Thanked 8 Times in 8 Posts

**Re: Type 9 gearbox tutorial**

i have been searching, but i didn't find an aswer yet, I have a couple of Type 9 gearboxes, but don't like to brake stuff, so

A friend of mine has a RS2000 16v engine, and it has 190 something hp and 170 -180 ish lb/ft. I wanne try the engine in my cortina, and see what it does, but i don't want to engine swamp if I break the Type 9. Its just a standard type 9, nothing more nothing less.

Can i savely engine swap it our do I need a clubman kit for the gearbox?



Ford Taunus Going RS2300 16v with 48s!!!

**Reply With Quote**

06-08-2009, 12:06

#101

**RWD fords rule** ◊

**Re: Type 9 gearbox tutorial**

Racer



Join Date: Feb 2006  
 Location: Ireland  
 Age: 29  
 Posts: 3,308  
 Thanks: 153

Thanked 262 Times in 235 Posts

Originally Posted by **Arieke**

*i have been searching, but i didn't find an aswer yet, I have a couple of Type 9 gearboxes, but don't like to brake stuff, so*

*A friend of mine has a RS2000 16v engine, and it has 190 something hp and 170 -180 ish lb/ft. I wanne try the engine in my cortina, and see what it does, but i don't want to engine swamp if I break the Type 9. Its just a standard type 9, nothing more nothing less.*

*Can i savely engine swap it our do I need a clubman kit for the gearbox?*

The only type 9 gearbox that will take that bhp and torque is the capri v6 heavy duty box, all the other boxes will sh1t a brick with that power, yes a clubman box will take that power fine, go for a tran-x gearkit instead they are much better as 1st and 2nd gears are floating on a specially made needle roller bearing, use a 2.4 first gear and a 1.69 second for rallying. 😊

Regards  
 Jason

**Reply With Quote**

06-08-2009, 14:26

#102

**Arieke**

Spanner Monkey



My Race Car

Join Date: Dec 2008  
 Location: Belgium, Zandhoven  
 Age: 27  
 Posts: 419  
 Thanks: 37

Thanked 8 Times in 8 Posts

### Re: Type 9 gearbox tutorial

crap, so i won't being swapping over the engine 🤔

Other question, if I order a gearkit, will the standard casing hold?

Some people say, the the cover needs to be stronger, need to worry about that to?

This will be my first gearbox rebuild.

*Last edited by Arieke; 06-08-2009 at 14:35.*



Ford Taunus Going RS2300 16v with 48s!!!

**Reply With Quote**

06-08-2009, 16:03

#103

**RWD fords rule**

Racer

### Re: Type 9 gearbox tutorial

Originally Posted by **Arieke**



Join Date: Feb 2006  
 Location: Ireland  
 Age: 29  
 Posts: 3,308  
 Thanks: 153  
 Thanked 262 Times in 235 Posts

*crap, so i won't be swapping over the engine* 🍆

*Other question, if I order a gearkit, will the standard casing hold?*

*Some people say, the the cover needs to be stronger, need to worry about that to?*

*This will be my first gearbox rebuild.*

Std cover is fine for that bhp, personally I doubt it adds much strength anyway, just fit the kit into a std type 9 gearbox, buy a rebuild kit + a new set of baulk rings, do the mods above and it will be very reliable.

A cheaper option is to buy a gear kit from BGH geartech, they do the best budget options, the E8 2.8 sporting close ratio kit would easily take the power that engine has,  
[http://www.bghgeartech.co.uk/html/gear\\_kits.html](http://www.bghgeartech.co.uk/html/gear_kits.html)

A std type 9 casing would need to be machined to fit the 2.8 gear kit but you could get it machined pretty easily, don't attempt the gearox rebuild unless you have patience, attention to detail and some previous experiance.

**Reply With Quote**

#### The Following User Says Thank You to RWD fords rule For This Useful Post:

[Arieke](#)

06-08-2009, 19:57

#104

**Arieke** ◉

Spanner Monkey



[My Race Car](#)

Join Date: Dec 2008  
 Location: Belgium, Zandhoven  
 Age: 27  
 Posts: 419  
 Thanks: 37  
 Thanked 8 Times in 8 Posts

**Re: Type 9 gearbox tutorial**

I was looking at the Tran X gear kits and saw this.

<http://www.tran-x.com/gearkits/T9helical.html>

**NEW! Low Ratio (2.98) 1st Gear Type Helical Gearkit**

This new kit lowers the 1st gear original ratio to a much more user friendly 2.98. A brand new main shaft 1st gear and a used/reclaimed lay gear cluster that has been modified/fitted with a new first gear. Also available in kit form where the lay shaft cluster and new 1st gear are supplied.

1st 2.98 2nd 1.97 3rd 1.37 4th 1 5th 0.82

The standard 1ste gear is 3.65, Can the engine handle a 2.48 as first gear? I must say i do use a 3.8 diff ratio.



Ford Taunus Going RS2300 16v with 48s!!!

**Reply With Quote**

06-08-2009, 20:22

#105

**Graham**

Moderator+

Site Supporter

Moderator



My Race Car  
My 1st Project

Join Date: Feb 2006

Location: Cambridge,  
Cambridgeshire, United Kingdom

Age: 46

Posts: 15,839

Thanks: 55

Thanked 855 Times in 813 Posts

**Re: Type 9 gearbox tutorial**

its only a change of first gear and IMHO a waste of time on a competition car.

your engine will cope with a 2.48 diff, my mild fast road pinto is fine with a 2.4 1st and a taller 3.54 diff



**Reply With Quote**

**The Following User Says Thank You to Graham For This Useful Post:**

Arieke

#106

08-08-2009, 10:26

**RWD fords rule**

Racer



Join Date: Feb 2006  
 Location: Ireland  
 Age: 29  
 Posts: 3,308  
 Thanks: 153

Thanked 262 Times in 235 Posts

**Re: Type 9 gearbox tutorial**Originally Posted by **Arieke**

*I was looking at the Tran X gear kits and saw this.*

<http://www.tran-x.com/gearkits/T9helical.html>

**NEW! Low Ratio (2.98) 1st Gear Type Helical Gearkit**

*This new kit lowers the 1st gear original ratio to a much more user friendly 2.98. A brand new main shaft 1st gear and a used/reclaimed lay gear cluster that has been modified/fitted with a new first gear. Also available in kit form where the lay shaft cluster and new 1st gear are supplied.*

*1st 2.98 2nd 1.97 3rd 1.37 4th 1 5th 0.82*

*The standard 1st gear is 3.65, Can the engine handle a 2.48 as first gear? I must say i do use a 3.8 diff ratio.*

A std Rs2000 has a first gear of about 3.5 to 1 with a 3.54 diff that gives an overall ratio from the engine to the back wheels of 12.39 to 1

For rallying use an overall first gear ratio of 11 to 1 is pretty much ideal, any lower than 10.75 to 1 and your engine will die off the line and not perform well no matter how much bhp you have.

With a 2.48 first gear you need a diff ratio of at least 4.375 and at least 4.63 with a 2.4 first gear, this is all with 13" wheels, a 15" wheel will need a 16% higher diff ratio because of the larger radius and more grip.

Regards  
 Jason

*Last edited by RWD fords rule; 08-08-2009 at 10:28.*

**Reply With Quote**

13-08-2009, 21:31

#107

**essypop**



Tyre Kicker

Join Date: Aug 2009  
 Location: mersyside  
 Age: 55  
 Posts: 1  
 Thanks: 0

Thanked 0 Times in 0 Posts

**Re: Type 9 gearbox tutorial**

hi there does anyone know if a standard 4 speed crossflow bellhousing will fit on a type 9 box or will i have to buy the rs

bellhousing ie alloy one cheers  

**Reply With Quote**



13-08-2009, 21:36

**dangerousdave** ◊

Moderator

Decade+

Site Supporter

Moderator



My 1st Project

Join Date: Oct 2002

Location: London

Age: 27

Posts: 18,122

Thanks: 68

Thanked 248 Times in 245 Posts

**Re: Type 9 gearbox tutorial**

Standard xflow boxes have integral bell housings so no its either the rs alloy one or the standard sierra cast one 🙌

**Reply With Quote**

14-09-2009, 11:28

#109

**Joe-Tait** ◊

I support TS

Site Supporter



Join Date: Jun 2007

Location: Whitley Bay

Age: 27

Posts: 2,935

Thanks: 62

Thanked 61 Times in 58 Posts

**Re: Type 9 gearbox tutorial**

I have never seen a post which indicates the differences in type 9 shaft length, so thought i would add these 😊

Pinto type 9 (short input shaft)



2.8 type 9 (longer input shaft)



can someone else correct me if im wrong

Cheers

**Screaming 1300 mexico rep 🤪**



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14-01-2010, 20:30

#110

**Group4\_Mark2** ◦

Pit Crew



Join Date: Dec 2004

**Re: Type 9 gearbox tutorial**

Is the only difference the length of the input shaft. Can the longer 2.8i shaft be machined on a lathe to shorten it to the same as the 2.0 length shaft. Otherwise is there any other gearbox that has the short input shaft that can be interchanged with the long type 9 one

Location: Ireland Age: 42 Posts: 1,738 Thanks: 20 Thanked 61 Times in 48 Posts	Regards Tom
--	----------------

**Reply With Quote**

14-01-2010, 23:02 #111

**Dan** ◦

I used to be: steely dan



[My 1st Project](#)

[My 2nd Project](#)

Join Date: Aug 2006

Location: west london

Age: 31

Posts: 5,671

Thanks: 123

Thanked 113 Times in 108 Posts

### Re: Type 9 gearbox tutorial

Originally Posted by **Group4\_Mark2**

*Is the only difference the length of the input shaft. Can the longer 2.8i shaft be machined on a lathe to shorten it to the same as the 2.0 length shaft. Otherwise is there any other gearbox that has the short input shaft that can be interchanged with the long type 9 one*

Regards  
Tom

there is apparently a difference that mean you cant just swap the input shafts from a 2.0 into a 2.8. i think its because the ratios are different and the gears on the input shaft have different numbers of teeth.

yes you can machine the input shaft down to match the 2.0 one, people have done this with an angle grinder 🤪 but with a lathe you can get it nice and tidy. i had mine done when i had the box rebuilt, they have to machine a bit of the splined section which id imagine is tricky with an angle grinder to do a neat job. but its not like its a complex job with the right tools 🍷



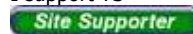
**Don't be mean, become green and support Turbosport -**  
**Click here** 🍷

**Reply With Quote**

15-01-2010, 00:47 #112

**exboy racer** ◦

I support TS



Join Date: Nov 2003

Location: Wirral UK

Age: 39  
 Posts: 7,290  
 Thanks: 256  
 Thanked 539 Times in 527 Posts

### Re: Type 9 gearbox tutorial

Originally Posted by **Group4\_Mark2**

*Can the longer 2.8i shaft be machined on a lathe to shorten it to the same as the 2.0 length shaft.*

That's what I did when I fitted a 2.8 Capri box to an xflow in my MK1 🙌

<http://escort.accelerator.org>

1968 MK1 Escort 1300GT

1969 'Big Wing' MK1 Escort

1972 MK3 Cortina 1600XL

1984 Sierra XR4i

And other junk I don't like to talk about!

**Reply With Quote**

15-01-2010, 08:17

#113

#### Group4\_Mark2

Pit Crew



Join Date: Dec 2004  
 Location: Ireland  
 Age: 42  
 Posts: 1,738  
 Thanks: 20  
 Thanked 61 Times in 48 Posts

### Re: Type 9 gearbox tutorial

Thganks for the answers. That gives me more options as I think I can get a 2.8 box. Also the better ratios of the 2.8 box should make it a better job all round

**Reply With Quote**

15-01-2010, 10:48

#114

#### RWD fords rule

Racer



Join Date: Feb 2006  
 Location: Ireland  
 Age: 29  
 Posts: 3,308  
 Thanks: 153  
 Thanked 262 Times in 235 Posts

### Re: Type 9 gearbox tutorial

Also the 2.8 gearbox has a stub shaft instead of the full length layshaft in the pics above, it uses a larger roller bearing in the front end of the bottom gear cluster, for this reason the 2.8 gearbox can take a lot more bhp than any other type 9.

The stub shaft sticks out past the bellhousing surface, it has 3 bolts to secure it and the bellhousing has got to have a recess to accommodate this, do an image search for 2.8 type 9 gearbox on google and I am sure you will find a picture of this.

Regards  
 Jason

**Reply With Quote**

16-01-2010, 21:56

#115

<p><b>d8vyr</b> ◊</p> <p>Mechanic</p> <p>Join Date: Jul 2006 Location: airdrie Age: 46 Posts: 942 Thanks: 24</p> <p>Thanked 15 Times in 15 Posts</p>	<p><b>Re: Type 9 gearbox tutorial</b></p> <hr/> <p>cracking thred m8, i`m currently putting a type 9 in my anglia van and it`s helped me a treat....is the clutch arm specific to the alloy bellhousing or is there another arm that can be used from another car, cheers davy</p>
<b>Reply With Quote</b>	

17-01-2010, 21:34		#116
<p><b>AvantSE</b> ◊</p> <p>Mechanic</p> <p>Join Date: Aug 2006 Location: Yorkshire Posts: 506 Thanks: 19</p> <p>Thanked 5 Times in 4 Posts</p>	<p><b>Re: Type 9 gearbox tutorial</b></p> <hr/> <p>Quick question - I want to swap the type 9 with a better condition one; I am using an alloy b/h in a std shell - will I need to drop the engine crossmember down or is it easy enough to do without doing this?</p>	
"TEA! FIVE SUGARS."		
<b>Reply With Quote</b>		

17-01-2010, 21:57		#117
<p><b>mk1yb</b> ◊</p> <p>Spanner Monkey</p> <p>Join Date: Mar 2006 Location: Glasgow Age: 41 Posts: 332 Thanks: 17</p> <p>Thanked 10 Times in 10 Posts</p>	<p><b>Re: Type 9 gearbox tutorial</b></p> <hr/> <p>You will need to drop the engine xmember about 40 - 50mm ( 2" ) to get your box out unless the shell has been modded with a large hammer!</p> <p>Stevie.</p>	
<b>Reply With Quote</b>		

**The Following User Says Thank You to mk1yb For This Useful Post:**

---

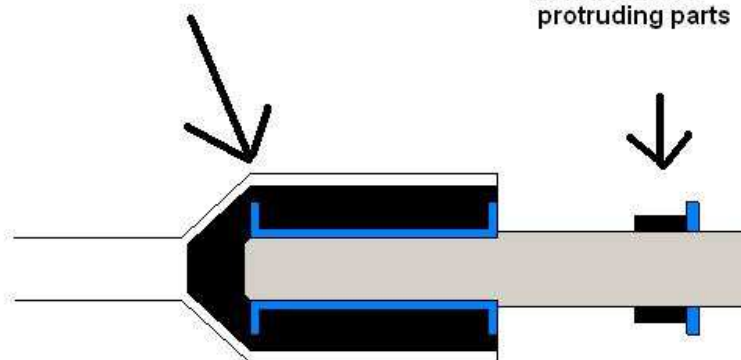
[AvantSE](#)

14-03-2010, 16:05		#118
<p><b>laur</b> ◊</p> <p>Tyre Kicker</p> <p>Join Date: Dec 2009 Location: Tartu, Estonia, Estonia Age: 25 Posts: 11 Thanks: 2</p> <p>Thanked 0 Times in 0 Posts</p>	<p>Hi all</p> <p>Im sure that many have been and surely more to be troubled about the issue how to get the gearstick apart for short shifter modifications. Just got mine to bits today and since i havnt got a camera at the moment i draw a picture:</p>	

Tight fit, easiest ways to get off:

- \*grind a gap and hammer off
- \*just cut the whole piece off

grind off the 2  
protruding parts



In the picture its straight, bcuz it was easier to draw.  
I can also make a drawing of the flange its self if anyone wants, made one my self and seems a good fit.  
Not sure about the thickness, will try with 10 mm thickness at first. I'll let ya'll know when i get it finished and functioning.

Hope it helps anyone.  
Laur

2x 82' Capri

[Reply With Quote](#)

14-03-2010, 23:08

#119

**bortaf** ◉

Pit Crew



Join Date: May 2004  
Location: london  
Age: 44  
Posts: 1,065  
Thanks: 16

Thanked 24 Times in 22 Posts

**Re: Type 9 gearbox tutorial**

Originally Posted by **RWD fords rule**

*Also the 2.8 gearbox has a stub shaft instead of the full length layshaft in the pics above, it uses a larger roller bearing in the front end of the bottom gear cluster, for this reason the 2.8 gearbox can take a lot more bhp than any other type 9.*

*The stub shaft sticks out past the bellhousing surface, it has 3 bolts to secure it and the bellhousing has got to have a recess to accomidate this, do an image search for 2.8 type 9 gearbox on google and I am sure you will find a picture of this.*

*Regards  
Jason*

That's only on the H/D V6 boxes, earlier ones like on the capri 2.8i don't have it.



**Reply With Quote**

05-04-2010, 09:52

#120

**sierra3dr**

I support TS

**Site Supporter**

Join Date: Oct 2007  
Location: middleton  
Age: 42  
Posts: 975  
Thanks: 50

Thanked 18 Times in 16 Posts

**Re: Type 9 gearbox tutorial**

I've been indulging myself yesterday in the T9 4x4





As I'm using a 2.3 crank in the turbo'd 4i, I didn't realise the crank at the rear will be smaller than a 2.8 crank. So I'm having to take out the input shaft, to have the diameter reduced from 19mm to 12.7mm apparently. But I've been struggling to get the gear selector shaft out, having removed the roll-pins. Recommendations appreciated 🙏

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Replies: 3

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By Jon in forum Wants

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By ludsonline in forum The Technical Section

Replies: 1

Last Post: 04-02-2005, 06:34

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