

# **B-Series Transmission Guide**

## **B-series Transmissions**

In response to recent questions about different transmissions I think its important to shed some light into the ones available for our b-series motors. There are many differences between B-series transmissions and I've never found an article describing the positives and negatives of each unit. Below, you'll see transmission codes, the car it's found in, and whether or not it has factory LSD. It's important to realize that Honda didn't make it easy for us to distinguish between transmissions. For example, almost all transmissions found in Integra's are stamped S80. This includes the tall LS transmission and the ultra short JDM Type-R transmission. In some cases, the only way to determine which transmission you really have is to take it apart and count the number of teeth on the ring gear. Obviously, in most cases it's not practical to take your transmission apart to determine which one you have. To be safe when acquiring a transmission, you should identify the seller; try to identify the car and or motor it came with.

## **B16A (Cable), B16A2 (Hydro), B16A3(Hydro): S4C, S80, Y80, Y21, Y1 (optional LSD)**

As most of you know the B16A was featured in Japan between the years of 1989 through 2001. This engine has had several different transmissions mated to it causing some potential confusion.

First, it's important to realize that first generation B16A's came with cable transmissions. The Y1 came with optional factory LSD and should have LSD stamped on the transmission. Determining whether or not a transmission has LSD is very simple, just look into the differential and see if its opened or closed. For those not familiar with this, you'll either see a set of gears that form a closed cylinder, or you'll see an open differential with a bar splitting the middle.

Typically these transmissions have had weak synchro's in 2nd, 3rd, and 4th gears with 3rd gears crunching the most. Its also worth noting that all of the transmissions minus the Y1 have very weak open differentials making it essential that you upgrade if your putting a lot of power to the ground.

As far as gearing, these transmissions are all pretty short. Here is a listing of the gear ratios and final drive, courtesy of [www.bseries.net](http://www.bseries.net).

1st: 3.230  
2nd: 2.105  
3rd: 1.458  
4th: 1.107  
5th: 0.848  
Reverse: 3.000  
Final Drive: 4.400

In conclusion, this transmission is good for all motor and should bring between 500-700 if its hydraulic while cable transmissions are worth between 400-600. Please be careful

that the transmission you're buying doesn't have bad synchro's because a lot of them have been beaten on and this is the first problem you'll have. Plus, if you're making a lot of power, 170 to the wheels, be prepared to replace your differential because these can be broken with regularity.

### **B16B (Hydraulic): S4C (LSD)**

The transmission found in the Civic Type R is highly sought after and very rare. Its gear ratio's are identical to that of the B16A's but has a stronger limited slip and dual synchro's in 2nd, 3rd, and 4th gears. Expect to pay between 1000-1200 for a genuine CTR transmission because they're rare and well worth the price. Its also worth mentioning that these transmissions are Hydraulic type.

### **B17A1 (Cable): YS1**

This transmission is found on the rare "blacksheep" of b-series motors. The most important feature here is that its cable-type. This means you can bolt this into any 93 and older integra and 91 and older civic without having to change to hydraulic. The synchro's on this transmission are still considered weak, however the gearing is very good for all motor applications as its identical to the B16A transmissions. Finally, this transmission did not have factory LSD, so keep that in mind when someone is trying to tell you otherwise. Look to pay between 400-600 dollars for this transmission, although its going to be difficult to find and usually when you do, there is something wrong with it.

### **B18A1 (Cable): YS1**

Again, you'll see how Honda didn't help us out any with the stamping on this transmission. These transmissions however, are much different in there gearing. This transmission has a longer first and second gear with slightly longer 3rd and 4th gears. The final drive is still 4.40:1 making this a possibility for all motor applications, but not your best choice. You'll be able to find this transmission in 90-93 Integra's and they're all cable-type. The prices for these should range between 200-400 for clean, good working units. Paying anymore is pointless, as these transmissions are everywhere.

### **B18B1 (Hydro): S80/Y80**

This is probably the easiest b-series transmission to find because it's found in every non-VTEC 94-01 Integra. Most notably, this transmission is the longest of all b-series transmissions and has the weakest synchro's and weakest differential. The final drive is 4.266:1 and each of the gears is longer compared to its B16A counterparts. For boost, a lot of people like the gearing of this transmission, plus gas mileage is great and they're

very cheap. Look to pay no more than 500 for a clean LS tranny because they're everywhere.

Here is a look at the Specs.

1st: 3.230  
2nd: 1.90  
3rd: 1.269  
4th: 0.966  
5th: 0.714  
Reverse: 3.000  
Final Drive: 4.266:1

### **B18C: S80/Y80 (Optional LSD)**

The transmission found in JDM GSR's is very popular and overall an excellent transmission. For all motor and boost applications this transmission has excellent gearing and a stronger differential compared to its B16A and B18B counterparts. The transmissions with LSD should have "LSD" stamped on the casing and to make sure, inspect the differential and use the parameters I described before to identify whether or not the transmission really has LSD. Look to pay between 700-1200 for this transmission depending on whether its LSD equipped. Also worth mentioning, these transmissions are all hydraulic.

Here is a look at the specs:

1st: 3.230  
2nd: 1.900  
3rd: 1.360  
4th: 1.034  
5th: 0.787  
Reverse: 3.000  
Final Drive: 4.400

### **B18C1: Y80**

This transmission is found in all USDM GSR's. Although LSD was not offered these transmissions are still highly sought after because of their stronger differentials and optimal gearing. For those not interested in ultra-short gearing this transmission provides the perfect balance between acceleration and top end. Look to pay around 700-1000 for these transmissions.

The specs are the same as above:

1st: 3.230  
2nd: 1.900  
3rd: 1.360  
4th: 1.034  
5th: 0.787  
Reverse: 3.000  
Final Drive: 4.400

### **B18C5: S80 (Helical LSD)**

This transmission is one of the best B-series transmissions Honda has offered in its vehicles. Every gear has dual synchro's and the gearing is perfect for all motor applications. Plus, LSD is standard and will be stamped on the housing. Look to spend between 1200-1400 for these transmissions because of their quality, LSD, age and gear ratio's. Finally, if there is some question about whether or not you're S80 has 4.4 final drive or 4.7 final drive you can check the transmission housing. The code "4jhd" means 4.4 final drive was offered as original equipment, while "ne3" signifies 4.78 final drive.

The specs are below:

1st: 3.230  
2nd: 2.105  
3rd: 1.458  
4th: 1.107  
5th: 0.848  
Reverse: 3.000  
Final Drive: 4.400

### **B18C (JDM Type R): S80 (Helical LSD)**

JDM Type R transmissions are the best for all motor applications where acceleration is emphasized most. All 98 and up JDM Type R transmissions came with 4.785 final drive with the same 1st, 2nd, 3rd gears as the USDM Type R. To make highway driving more tolerable, the 4th and 5th gears are the same as GSR transmissions. Look to spend between 1400-1600 for these transmissions because of their final drive and rarity.

Here is a look at the specs:

1st: 3.230  
2nd: 2.105  
3rd: 1.458  
4th: 1.034  
5th: 0.787  
Reverse: 3.000  
Final Drive: 4.785