# TOYOTA

# TRD

# RACING DEVELOPMENT

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TRD U.S.A., Inc., (the initials stand for Toyota Racing Development, which pretty well describes us), is a subsidiary of Toyota Technocraft (formerly Toyopet), which was established by Toyota Motor Corp. in 1954. Toyota Technocraft in turn created TRD Japan in 1965, just as the modern era of motorsports took off.

In Japan, Toyota utilizes Toyota technocraft/TRD Japan to produce race cars such as the Group C car seen in the U.S. IMSA events in 1989 and in European competition prior to that. TRD Japan also produces a wide range of street performance and racing parts for Toyota vehicles, as well as producing modified versions of production Toyota cars and trucks for both street and track.

TRD U.S.A. was created in January, 1979. Since then, we have been providing access to those TRD Japan parts which are attuned to the U.S. market and, in addition, engineer and produce our own products.

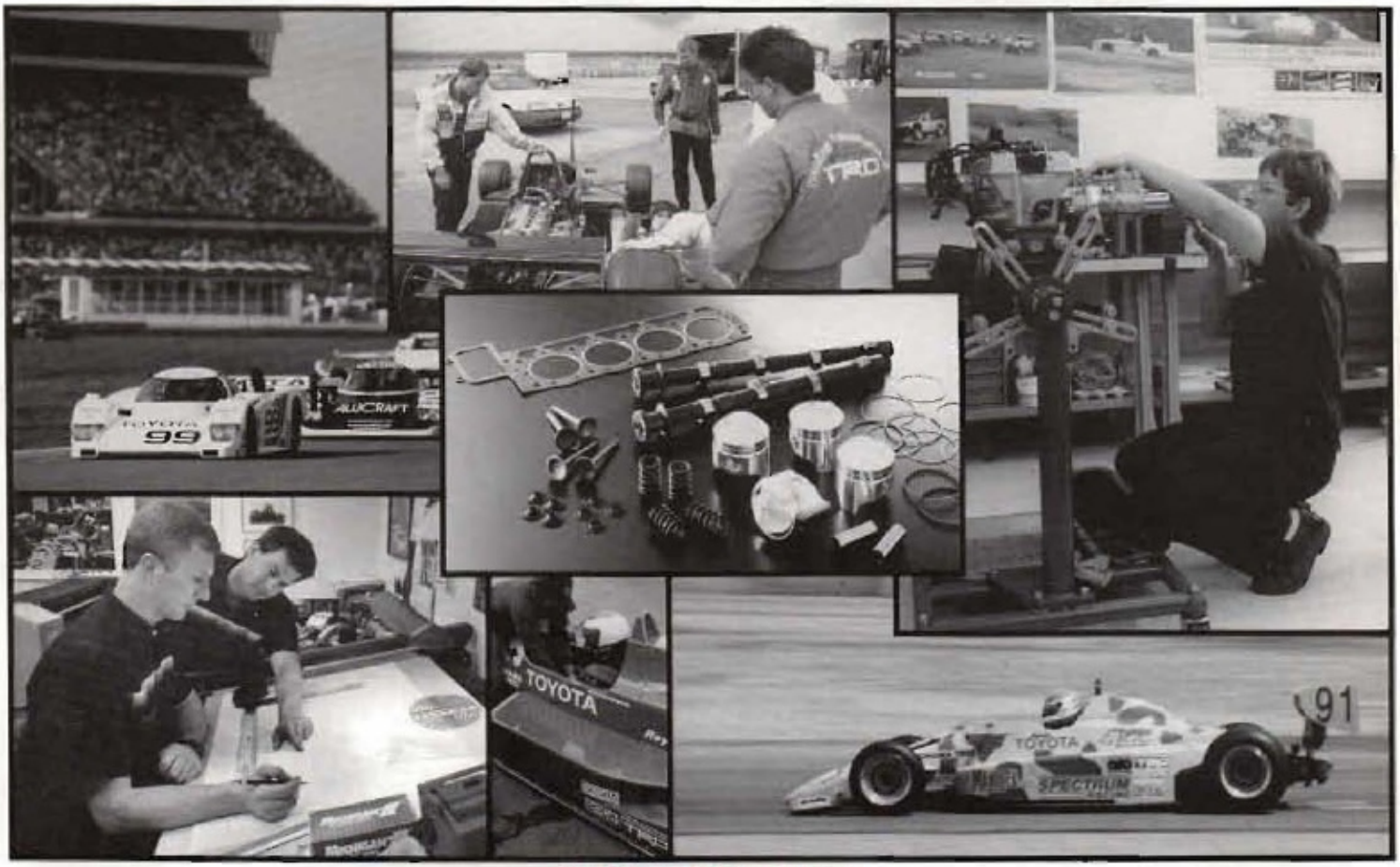
TRD U.S.A. has a close working relationship with Toyota Motor Sports and, under contract, have developed and produce the Toyota Atlantic series engine and the IMSA GTP program turbocharged race engines.

Today, TRD U.S.A. offers the widest range of performance and racing products for Toyota cars, engines and driveline/suspension systems available anywhere. We make and sell products for no other vehicles. For street performance, and for racing applications from autocross to IMSA GTP, Toyota Racing Development is the first and the last stop for Toyota owners.

Every product we offer is backed by the same engineering experience and quality that went into your Toyota car or truck. Where appropriate, our products have been competition-proven. Quality of fit and performance is assured at the design stage and in manufacturing.

In this catalog, we provide more than a simple listing of available parts, however. At the beginning of each product section, we provide tips on performance enhancement that are designed to prevent the selection of parts that won't meet your needs, and which will guide you to the parts that are right for your intended type of driving or racing. And before you get into the parts, we've provided information on each Toyota model with regard to racing suitability and recommended modification packages, including details right down to suspension alignment.

The combination of a broad body of racing experience, street performance modification expertise and the quality standards of a major auto manufacturer have put TRD U.S.A. at the forefront of import car modification. After racing through this catalog, we think you'll agree that Toyota performance begins and ends with TRD.




## Table of Contents

# Toyota Cars: Built to Perform

The following section provides information on individual Toyota models, including history, useful technical information and recommended modification packages for street and racing.

## SUPRA

Introduced in 1979 (as model MA46), the Supra was initially sold as a top-of-the-line Celica. Until 1980, the 120-hp 2.6-liter 4ME engine was used. In 1981, the designation was changed to the MA47 and the engine was enlarged to 2.8 liters (the 5ME). The increased displacement and an improved fuel injection system raised horsepower to 130. These Supras ('79–'81) had four-wheel disc brakes, a unique W-52 trans and 7.5" differential.

The 4ME/5ME engine was designed for low-rpm torque rather than high-rpm horsepower and, in a heavy-for-its-size vehicle, offered limited performance potential. Few parts are available beyond suspension, limited-slip diffs and rear end gearsets.

In 1982, Toyota redesigned the Supra from the tires, up. For the enthusiast, four-wheel independent suspension was added and an all-new 5MG engine was used. This beauty has dual overhead cams (DOHC), 2.759-liter displacement and produces 143 hp, upgraded in subsequent years to 160 hp. The MA60 model Supra thus produced is a world-class touring car, with a good factory balance between torque and horsepower, a high level of cornering grip and great occupant comfort. The chassis is exceptionally strong; we have customers with rattle-free examples after 200,000+ miles, one reason why they hold their resale value.

MA60 Supras used a 7.5" differential, with axle ratios varying from 3.70 to 4.38. The first letter of the code on the manufacturer's identification plate is the ring gear size (always an F on these cars); the next two digits give the gear ratio:

| Code | Ratio |
|---|---|
| 05 | 3.70 |
| 07 | 3.89 |
| 08 | 4.11 |
| 09 | 4.22 |
| 10 | 4.38 |

A wide range of performance parts is available for MA60s, concentrated in the suspension and drivetrain as the 5MG was never developed for racing. MA60s have top-three-places potential in the following SCCA (Sports Car Club of America) classes: ITA, SP2, ESP and GS.

The MA70 Supra, introduced as a 1986½ model, was again all-new from the tire footprint. A more aerodynamic body and even better ergonomics were created. Under the hood, an all-new 3-liter, 4-valves-per-cylinder, in-line six was developed, producing 200 hp. A year later, a turbo option was made available with 230 hp. Larger, ventilated discs were added, along with a new unequal-length A-arm independent suspension.


The turbo version of the 7MGT engine features an air-to-air intercooler, lower compression and oil cooled pistons aiding durability. Clutch and trans are beefier to handle the torque increase. Both engine versions are controlled by an on-board computer system which provides performance with remarkable driveability.

From the factory, turbo Supras are equipped with micro-processors that monitor a wide range of engine operating parameters. The computer adjusts boost pressure, fuel delivery, spark timing and other factors to provide both peak performance and driveability. The computer maintains a delicate balance–one required by any finely tuned engine–and simply turning up the boost can cause spontaneous (and expensive) engine disassembly! TRD has developed performance modification systems for the Supra turbo engine which interface with the computer to increase power without a sacrifice in reliability. These include TRD's high-flow exhaust system, electronic boost control system, high-volume intercooler, fuel computer, and larger turbocharger.

## MR2

Toyota engineering superiority is perhaps nowhere better demonstrated than in the design of the MR2. In addition to covering the basics–four-wheel independent suspension, excellent brakes, driver-friendly controls placement–its mid-engine design places the major weight mass the engine, as close as possible to the center of the wheelbase. The result is low **polar moment of inertia**. The reverse, or high polar moment, is created by placing weight masses at or near the ends of the car. As can be easily imagined, weight masses at the car's ends will lead to earlier loss of traction in cornering through a pendulum effect.

Instead of having the inertia of the major weight mass primarily affect one end of the car (leading to understeer in front-engined cars and oversteer in true rear-engined cars like the old Corvair) the MR2 engine's weight (and that of the driver) acts on both front and rear ends pretty much equally because of its central location. As a result, it is much easier to cause the MR2 to change directions and the car achieves more neutral handling and superior cornering G-levels in stock form. TRD suspension modifications can raise cornering levels to racing performance that is still street useable.

The power gains available are equally dramatic. The MR2, introduced in 1985, uses Toyota's 4AG engine, the same four-cylinder, DOHC, 16-valve powerplant we modify for Toyota Atlantic formula race cars. In naturally aspirated or supercharged form, the 4AG can produce the kind of power that demands respect both from its driver and its competition.

The MR2, properly prepared, can win in SCCA GT-3, IT (eligible from Jan. '90), Pro-Solo SP-3 and Solo II (CSP), D Stock and E Prepared classes.

## CELICA

Since its introduction in 1971, the Celica has been available in a large variety of chassis, engine and body configurations, as shown in the adjacent chart. The original body resembled a ¾-scale fastback Mustang of mid-'60s vintage, and was followed by a more angular body (and the first Supra, essentially a 6-cylinder version of the Celica). The GT-S version was introduced in 1982 and offered slightly stiffer suspension, larger tires and wheels and wheel-well flares. Mechanically, it was the same as the standard model, with solid rear axle, drum brakes and the carbureted 22R engine.

In 1983, the GT-S received independent rear suspension (IRS) and in 1984 disc brakes were added to the rear axle as well. Also in 1983, the GT-S received the 22RE fuel injected engine, retained through the 1985 model year.

In 1986, the Celica went to front-wheel-drive and a new 2-liter, 16-valve engine, the 3SG, was introduced, which is still used. Specifications on the various Celica engines are provided in the adjacent chart. Note the use of iron and aluminum cased transmissions in different years; while the aluminum version is lighter, it is also weaker and not recommended for serious performance use. The S-53 trans is used in front-drive Celica only.

All rear-drive Celicas had 6.7" differentials. Gear ratios may be determined by the four-digit axle code from the vehicle ID plate on the firewall. T prefix is for 6.7" diff. The next two digits identify the axle ratio:

| Code | Ratio |
|---|---|
| 05 | 3.70 |
| 07 | 3.90 |
| 08 | 4.11 |
| 09 | 4.22 |
| 10 | 4.375 |

| Model Year | Model Code | Body Style | Engine Code | Trans Type |
|---|---|---|---|---|
| 1971–75 | RA20 | Coupe | 18R | W-50* |
| 1975 | RA22 | Coupe | 20R | W-50* |
| 1976–77 | RA24 | Coupe | 20R | W-50* |
| 1976–77 | RA29 | L'back | 20R | W-50* |
| 1978–80 | RA42 | Coupe | 20R | W-50* |
| 1978–80 | RA42 | L'back | 20R | W-50* |
| 1981 | RA43 | Coupe | 22R | W-50* |
| 1981 | RA43 | L'back | 22R | W-50* |
| 1982–85 | RA64 | Coupe | 22R | W-50* |
| 1982–85 | RA64 | L'back | 22R | W-50* |
| 1982 | RA64 (GT-S) | L'back | 22R | W-50 |
| 1983–85 | RA64 (GT-S) | L'back | 22RE** | W-50 |
| 1983–85 | RA64 (GT-S) | Coupe | 22RE** | W-50 |
| 1986 | ST161 | Coupe | 2SFE** | S-53 |
| 1987–89 | ST161 | Coupe | 3SFE** | S-53 |
| 1986–89 | ST162 | L'back | 3SGE** | S-53 |
| 1988–89 | ST165 (All Trac) | L'back | 3SGT*** | E-50F2 |

* Iron case
** E stands for fuel injection
*** T stands for turbocharged

**RA20 (1975–1977).** The 18RC has limited potential and is not recommended for competition. For street use, the 18RG engine is a direct bolt-in replacement. Never imported into the U.S., the 18RG is readily available from a number of sources and yields outstanding performance. It is easily modified to produce in excess of 190 hp. TRD has a full line of parts for the 18RG.

Fortunately for early Celica owners, the 18RC engine was replaced, beginning in 1975, with the 20R and, later, a revised 22R version. The 20R displaces 2213 cc with bore and stroke equal at 89mm. The 22R was bored to 92mm (2365 cc), and was available in both carbureted and injected versions (22R, carbs; 22RE, injected), while the 20R was carbs only. Both engines have a single overhead cam (SOHC); the 20R and early 22R have a hemispherical combustion chamber and the later 22R has a swirl-type combustion chamber. All 22Rs, had re-designed intake ports for lower emissions.

The 20R head is superior and is a bolt-on replacement for pre-'85 22R heads and will increase compression ratio by 0.5 to 1.0. The 20R head will not interchange on 1985 and later 22R blocks.

**Caution:** 20R and 22R cams are interchangeable. However, several different materials have been used for cam followers, resulting in very short cam life with regrinds due to material incompatibility between cam lobe and cam followers, Use only new cams in these engines.

**RA40 (1978–1981).** Early RA40 Celicas use the 20R engine (through 1980), with later versions equipped with the 22R. See above.

**RA60 (1982–1985).** This includes a mixed bag of IRS and live-axle rear suspensions. The later ('84–85) GT-S is TRD's recommendation for street performance because it has the independent rear, fuel injection and four-wheel disc brakes. The coupe body style is both lighter and more rigid than the liftback. Due to the IRS, these models can corner and brake better than the live-axle cars at lower speeds, but require greater skill at higher speeds because the rear end has a tendency to kick out (oversteer) under trailing-throttle conditions.

**ST16, ST165 Series (1986–1989).** There has been little development of engine parts for the ST Celicas and the 2SFE/3SFE/3SGE engines used, due to their limited involvement in racing. High-flow exhaust systems are offered, along with suspension parts to upgrade handling.

The Celica AllTrac turbo, introduced in 1988, is essentially a Celica GT-S equipped with a turbocharged 3SG engine, rated at 190 hp. The All-Trac, developed for international rallying, has all-wheel drive and anti-lock brakes (ABS). With outstanding performance as delivered, more sophistication is available through the use of TRD performance parts, including a high-flow exhaust system, EVC, a fuel management computer and limited-slip differential.

## COROLLA

There are more variations on the Corolla platform than on any other Toyota model. SR5 and GT-S versions are available, with the latter being top-of-the-line and having more powerful engines.

All Corollas are lightweight, well powered and relatively inexpensive, making them great platforms for performance modification. Even when extensively modified, they have proven extremely reliable and troublefree.

### 1976–79 Models

Available as both coupe (TE37) and sedan (TE51). The sedan is a better choice as it is both lighter and more rigid than the hardtop. The SR5 version offers the most potential because of its 5-speed trans and 6.7" differential (others have a 6.38" diff).

All models in these years have the great 2TC engine: 1588 cc displacement; hemispherical combustion chambers; 102 hp. Virtually indestructible bottom-end and the hemi cylinder head combine to tremendous performance potential...and of course TRD has the parts that let you realize that potential.

The 2TG DOHC engine, with 1600 cc displacement and 125 hp, is a bolt-in swap for the 2TC. Never offered in the U.S., the 2TG has incredible performance potential for modification and is readily available through importers. We have a wide range of parts for these engines.

In competition, Corollas have proven winning potential in the following classes: circle track; mini-stock; ITC; GT-4; Solo II; E Prepared; D Street Prepared; Pro-solo; and Sp3. They are a bit less competitive in H Stock.

**1980–1983 Models.** Even greater model selection is available in these years. We prefer the SR5 coupes, powered by the 3TC engine with 1770 cc and hemi head, rated very conservatively at 83 hp. The 2-door sedan is slightly lighter and is more rigid than the liftbacks.

The 2TG engine (see above), with its greater performance potential, is a bolt-in swap. Note, however, that the T-50 trans used in these years is not interchangeable with the early T-50, as the tailshaft is different. All years have the same differential, a 6.38" diameter unit.

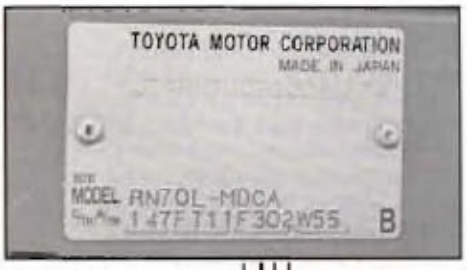
Corolla models in these years have proven potential winners in circle track/mini-stock competition, and in SCCA classes including GT-4, ITB, Solo II, D Street Prepared, E Prepared, Pro-Solo (SP3).

**1984–1987 Models.** Again, a number of models were offered, with the SR5 and GT-S as standouts. The GT-S is the model of choice as it has the Toyota 4AG engine, which is also the basis of the TRD-developed Toyota Atlantic formula-car spec engine. This 16-valver has 1587 cc displacement and was rated at 114 hp. GT-S Corollas have 4-wheel discs (the SR5 has mixed disc/drum brakes) and use a 6.7" differential with a 4.30:1 ratio. SR5s have a 6.38" diff and 4.10 ratio.

Corolla models in these years have extensive performance potential

**First Digit: Gear Diameter**

| Code | Ring Gear Dia. | Code | Ring Gear Dia. |
|---|---|---|---|
| A | 138mm | M | 12.5" |
| B | 145mm | N | 13.5" |
| C | 6.25" | P | 14" |
| D | 6.62" | R | 162mm |
| E | 7.1" | S | 6.38" |
| F | 7.5" | T | 6.7" |
| G | 8" | U | 6" |
| H | 9" | V | 10.6" |
| J | 9.25" | W | 15.5" |
| K | 9.5" | X | 142mm |
| L | 10.5" | Y | 158mm |




Code: F302
Ring Gear Diameter (F = 7.5")
Gear Ratio (30 = 3.727)
No. of Pinion Gears/Ltd. Slip
(2 = 2 Pinions, No Ltd. Slip)

**Second, Third Digits: Gear Ratio**

| Code | Gear Ratio | Code | Gear Ratio | Code | Gear Ratio |
|---|---|---|---|---|---|
| 01 | 3.30 | 15 | 5.125 | 29 | 4.10 |
| 02 | 3.36 | 16 | 5.286 | 30 | 3.727 |
| 03 | 3.545 | 17 | 5.60 | 31 | 3.909 |
| 04 | 3.556 | 18 | 5.714 | 32 | 6.591 |
| 05 | 3.70 | 19 | 5.833 | 32 | 5.583 |
| 06 | 3.889 | 20 | 6.167 | 33 | 7.503 |
| 07 | 3.90 | 21 | 6.667 | 33 | 5.583 |
| 08 | 4.111 | 22 | 6.78 | 34 | 6.781 |
| 09 | 4.222 | 23 | 6.833 | 34 | 4.786 |
| 10 | 4.375 | 24 | 7.64 | 35 | 7.636 |
| 11 | 4.444 | 25 | 4.556 | 35 | 5.60 |
| 12 | 4.625 | 26 | 5.571 | 36 | 4.778 |
| 13 | 4.79 | 27 | 3.364 | 37 | 3.583 |
| 14 | 4.875 | 28 | 4.30 | 38 | 3.417 |

**Fourth Digit:**
**No. of Pinions/Ltd. Slip Yes-No**

| Code | No. of Pinion Gears | Limited-Slip: Yes/No |
|---|---|---|
| 2 | 2 | No |
| 3 | 2 | Yes |
| 4 | 4 | No |
| 5 | 4 | Yes |

To determine which engine series was used in producing your Toyota, refer to the firewall Chassis Identification Plate, which incorporates a letter/number combination code. Products in this catalog which apply to an engine, rather than to a chassis, are listed by engine code (4AG, 2TC etc.) The chart below will allow you to determine which engine is in you car or truck.

| Engine Code from Chassis ID Plate | Engine Series |
|---|---|
| RA20, RN12<br>RA21, RN14, RN22, RN27 | 8RC<br>18RC |
| RA22, RA24, RA29, RA42, RN23, RN28, RN32, RN42, RN37, RN47 | 20R |
| RA43, RA64, RN34, RN44, RN38, RN48, RN50, RN55, RN60, RN61, RN65, RN66, RN70, RN80, RN85, RN90 | 22R |
| RA64, RA65, RN50, RN55, RN60, RN61, RN65, RN66, RN70, RN85, RN90, RN101, RN106, RN110 | 22RE |
| RN55, RN61, RN66<br>RN80 | 22RTE<br>22RE |

| Engine Code from Chassis ID Plate | Engine Series |
|---|---|
| TE21, TE27, TE28, TE31, TE37, TE38, TE51<br>TE72 | 2TC<br>3T |
| SW12<br>VZN85, VZN90, VZN95, VZN100, VZN105, VZN110, VZN120, VZN130 | 3SG, 3SGT<br>3VZE |
| AE82, AE86, AE92, AW11<br>AW11 | 4AG<br>4AGZ |
| MA61<br>MA70 | 5MG<br>7MG, 7MGT |

# Performance Engine Modification

Entire books have been written on how to modify engines for street and track. What follows is not intended to compete with those books. We're not going to tell you what parts to shot-peen, how to magnaflux a weld, or the esoteric differences between static and dynamic balancing.

What we are going to do is try to pass on the basics of performance engine building in general, and those tips which are specific to Toyota vehicles. Our intent is to keep the first-time engine builder from making the mistakes that experienced engine builders have made. The difference between the two is simply that: the guy with experience has made his mistakes and learned from them.

For those of you for whom this isn't the first time, the Toyota-specific information should be of special significance and the general tips may refresh your memory and keep you from having to re-learn something you might have forgotten.

The most common mistake in street engine modification is the "bigger is better" syndrome. Too much carburetion, too much cam and too much rear gear lead inevitably to a car that is too much to drive on the street. A great race engine is a real horror on the street, because it won't make power down low in the rpm band, where most street driving is done.

What a street engine needs most is the kind of modest improvemen that sharpens an engine's edge and delivers good, solid, tree-stump pulling torque. You'll spend less time shifting gears when you're jus driving around, yet the power will be there when you want it.

## GEAR SELECTION

Take gear ratios, for example. Later Supras were produced with rea axle gear ratios from 3.70 to 4.38. If you have a 3.70:1 example considering only the stock ratios available, you have substantial room fo upgrading. As the gear number increases, you obtain what is called a lower gear ratio. Stepping up to a 4.11 will give much greater torque multiplication at low speeds, and the car will leave intersections with amazing speed. Step up to the 4.38, and the effect is even more dramatic But the down-side is the fact that a given speed requires more rpm...and a 4.38 ratio will have your engine running at or near redline at highway speed. It may or may not be a problem, depending on how, and where you drive.

The factory has options you don't. If they change the rear gear to a lower ratio, they have the option of changing final gear in the trans to a more overdrive ratio, keeping engine speed down at highway rpm, while

still providing the low-end punch the gear change in the rear end provides.

In short, what we're talking about here is balance of the elements in a complex system. If you add a lower rear end gear, you can compensate with a taller tire which covers more distance per revolution due to its greater circumference. That will keep high vehicle speed rpms down, but will also reduce the effect of the gear ratio change. You have to obtain a balance.

### BALANCED SYSTEM

The best example of balanced systems is the engine. You can change carburetors and camshafts to admit more fuel/air mix to the engine, but that can require larger intake valves so the charge doesn't back-up, in effect, in the intake manifold. And it also will require larger exhaust valves to flow the greater volume of waste products from combustion, a free-flowing header and larger-diameter exhaust tubing with a lower-restriction muffler. You can only pack in as much as you can get back out. Balance.

The first key to success in achieving that balance is to honestly analyze your performance requirements. How will the car be driven? Pure street? Autocross? Drive-it-to-the-races SCCA-class fun car? Serious, trailered race car? Is low-rpm power important? Or are you willing to slip the clutch to get away from stop signs in exchange for mid-range and top-end power? Nothing in life, as they say, is free. It's all trade-offs and compromises, but if they're your compromises...the ones that are suited to what you want your Toyota to be, they're only a negative to the parking lot attendant. It just proves, once again, that one man's vice is another's virtue.

Just be sure to think everything all the way through, and remember that you're making changes to individual elements that are part of overall systems. And that changes to one element will have an affect on (or a requirement of) other elements in that system.

### SUSPENSION

Suspension modification is another example. A rigid chassis (and we cover their relative rigidity in the vehicles section which follows) is probably worth more than up-rated shocks/struts and springs. If the chassis flexes, suspension alignment changes and those nice, wide tires don't stay flat on the ground, becoming skinny tires. (Lay a pencil on any flat surface. Then lift one end an eighth of an inch from the surface. How much of it is still in contact with the surface?) So maybe you should start with a weld-in roll cage. Looks great, provides safety and also makes the chassis much more rigid.

For suspension modifications, remember that an all-but-rigid suspension set-up is great on smooth race tracks, but will back the fillings out of your teeth on pot holes. Start with our bushing kits to take the slack out of everything. You'll find the car goes where you point it, predictably and consistently, and you'll stop having to make minor correcting steering inputs as you go through fast highway sweepers. Then add shocks/struts. They'll firm up the ride, but you won't grind the air dam off the front valance panel on every driveway. If, after that, you're still ready for more, step up to high spring-rate coil springs, lowered ride height and the potential (with good tires) of 1.0-g cornering levels...but don't forget wheelwell clearance for those plus-one or plus-two tires you've added. Again, balance the system and look at how one parts change will affect other parts of the system.

## INCREASING FUEL FLOW–FLOW INJECTION/CARB MODIFICATIONS

On carbureted cars, it's relatively easy to provide the greater volume of fuel/air mix required by opening up the exhaust system and/or adding performance camshafts. Bigger carburetors and low-restriction air filters are available. They're all in this catalog. Just adding a free-flowing exhaust system will require a richer mixture to get all the bang you spent your exhaust system bucks to obtain.

On electronic fuel injected cars, it's somewhat more difficult.

For racing, where emissions aren't a consideration, you can modify the air flow meter and the EGR valve (see below). For the street, we offer performance fuel management systems for turbo-charged cars, along with variable boost controls and other devices.

## RACING MODIFICATIONS TO AIR FLOW METER AND EGR VALVE

**NOTE:** The following modifications should only be performed on race cars and other vehicles not used on public roads. Both modifications are violations of U.S. Department of Transportation emissions standards. In addition, they will void your Toyota vehicle warranty protection. The air flow meter modification is especially easy to detect. Be certain to check race sanctioning body rules for your class to determine if these modifications are allowed.

**Air Flow Meter Adjustment.** Consult your factory shop manual t determine the location of the air flow meter. The adjustment will allow yo to richen or lean the mixture from factory settings.

The air flow meter is a metal box with a black plastic lid, usually found o top of the air filter canister or, on Supras, on the intake manifold. Cut th silicone seal holding the black plastic lid in place. Use caution so plastic li is not cut; a water-tight seal is critical as moisture wreaks havoc on th electrics. Gently pry the lid from the housing.

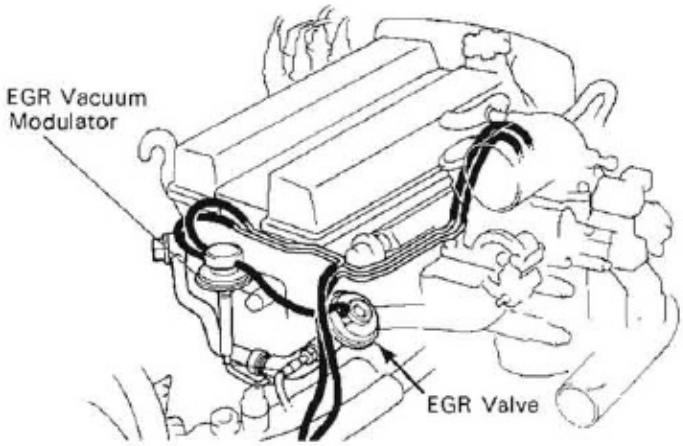
*Air flow meter with plastic lid removed. Note gear and hold-down clamp set-screw (arrows). See text for modification.*

To adjust, first mark the original location of the hold-down clamp on th gear wheel so you can return to stock setting if necessary. Loosen th clamp set-screw and rotate the gear wheel 3 to 5 teeth in either direction Clockwise leans the mixture; counter-clockwise richens it. Providing a more rich mixture will generally increase top-end power at the expense o off-idle performance, a modification well suited to the race track. A 5-tooth adjustment will usually cause the motor to bog down betwee shifts.

Be careful to seal the plastic lid with silicone after adjustment.

**EGR Modification.** The Exhaust Gas Recirculation valve does jus what the name implies: it diverts some exhaust gases back into the intak system at low engine speeds. This lowers combustion temperature t reduce NOx levels. It also reduces throttle response and bottom-en power.

Disabling the EGR valve is easy. Locate the valve and the EGR vacuu modulator valve (two gold-colored metal stampings, usually at the rear o the engine). The EGR valve has steel lines leading to it from the exhaus manifold. The EGR vacuum modulator has two vacuum lines between and the intake manifold and a third vacuum (soft) line between th modulator and the EGR valve itself.




*ERG valve (arrow) is shown adjacent to similar EGR vacuum modulato valve. EGR valve is connected to exhaust manifold with steel line Modulator has vacuum lines only.*

Disconnect the vacuum line between the valve and modulator an place any solid object of appropriate size (dowel, etc.) in the line, the reconnect the line.

Again, these modifications should not be used on street-driven moto vehicles as it violates Federal and, probably, state laws. As we're require to say, **"Not legal for sale or use in the State of California on an pollution controlled motor vehicle."** And not recommended by TRI U.S.A., either.

# 1 Intake System

This section contains all TRD intake system parts, from air filters to manifolds. Turbocharger products are in Section 14.

TRD offers a full line of individual rebuild parts, in addition to the rebuild kits shown here.

In TRD's experience, the ideal set-up for Toyota four-cylinder engines is a pair of Mikuni sidedraft carburetors. We offer carbs alone as well as in engineered kits including all parts needed for installation. Two sizes are available: 40mm for otherwise unmodified, small-displacement engines like the 2TC and 3TC; others should use the 44mm carbs.

The Mikuni carbs listed, as well as the Weber units, are easily adapted to varying engine requirements through jet and other changes, so the can "grow" with a series of engine modifications performed over a perio of time.

Improved carburetions (and hotter cams and ignition) often requir more fuel delivery to the carbs than the stock fuel pump can provide. TRI has high-volume pump and filter combos. We recommend from 2.5 to 4. lbs. of fuel pressure.

The more fuel your system can flow, the more air the engine requires be sure to check out the K&N air filters, which are washable and thu reuseable.

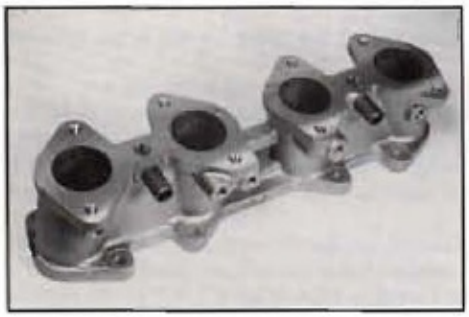
## 2TC/3TC Intake Manifold Kit

Complete, less carburetors. Includes two-carb manifold, insulators, gaskets, fuel line, clamps and is pre-studded for these engines. Just ad carbs and labor. **Pt. No. 116-Z60-5110**

## 2TC, 3TC Intake Manifold

Accepts any dual sidedraft carb set-up (40, 44 or 48mm). Features thicker-than-stock port walls for greater porting freedom. Includes the manifold, studs and insulators. Linkage may be fabricated, or use TRD P/N 116-Z60-1001. N smog fittings; not street legal.

**Pt. No. 17011-TE00**



## 2TG Intake Manifold

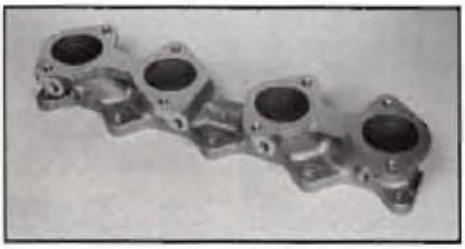
Similar to above. Accepts any two sidedraft carbs (40, 44 or 48mm) and has the same thick ports for match porting. Includes manifold, studs and insulators. Fabricate linkage or se TRD P/N 116-Z60-51100. No smog fittings; nc street legal. **Pt. No. 17111-TA05**

## 20R Celica Intake Manifold Kit

Similar to P/N 116-Z60-51100, except for 20R engine. **Pt. No. 116-Z60-5471**

## 20R Manifold Kit

Fits dual Mikuni sidedraft 40 or 44mm carbs, primarily for Celica. Includes manifold, insulators, gaskets, fuel lines, clamps and hardware. Pre-studded. Complete less carbs and link age.See TRD part numbers 116-Z44-541 an 116-Z60-54103. **Pt. No. 116-Z60-5411**



## 4AG Intake Manifold

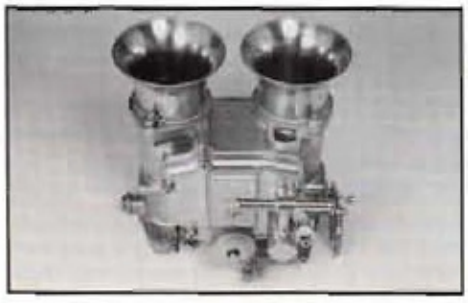
As used in Toyota Altantic engines. Mounts two Weber, Dellorto, SK, Mikuni or Solex carbs. Manifold only; linkage can be fabricated or use TRD P/N 78022-001AE or 78022-AE801, or Mikuni P/N 116-Z60-1001 linkage kits. Extr thick manifold runner walls are ideal for matc porting. No smog fittings.

**Pt. No. 17111-AE80**

## 4AG Intake Manifold Kit

As above, plus studs, linkage, insulators and gaskets, complete and ready for installation (les carbs). **Pt. No. 17111-AE00**

**NOTE:** Manifold for 4AG has worked well on Corolla GTS, FX16 and MR2. Conversion from fuel injection is a complex undertaking. Fuel pump from FI engine produces approx. 40ps carbs require only 2-3psi and electric fu pump is required.



## Mikuni Sidedraft Carburetor

Great street performance and racing carb. This 40mm carb has tapered barrel and replaceable inner and outer venturis. Versatile and inexpensive...best in TRD dyno testing. Excellent replacement for 2TG, 18RG. No va uum advance fitting. Combine with P/N 11 N40PHH-98 for two-carb use.

**Pt. No. 116-N40PHH-9**



**Not legal for use in California on pollution-controlled motor vehicles.**

# TOYOTA RACING DEVELOPMENT

## Mikuni Sidedraft Carburetor

As above, but with vacuum distributor advance fitting. Use instead of carb above when using only one carb to retain advance. **Pt. No. 116-N40PHH-98**

## Mikuni Sidedraft Carburetor

Larger version of -97/8 carbs above in 44mm. Excellent for 2TG/18RG engines. Has tapered barrels and replaceable inner and outer venturis. Can be made to flow more fuel than the -97/98s and adapts to greater range of engine mods. No vacuum fitting for distributor advance. Use with P/N 116-N44PHH-42 in two-carb set-ups or when no vacuum advance is required. **Pt. No. 116-44PHH-41**

## Mikuni Sidedraft Carburetor

As above, but with vacuum distributor advance fitting. Use instead of above when running one carb and vacuum advance. **Pt. No. 116-44PHH-42**

## Mikuni Racing Sidedraft Carb

For racing use only; has little bottom-end torque and no vacuum fitting. Fully adjustable with replacement parts for varying air/fuel flow capacity. **Pt. No. 116-N50PHH-27**

## Mikuni Racing Sidedraft Carb

As above, but with vacuum fitting for distributor advance. **Pt. No. 116-N50PHH-28**

## Weber Downdraft Carburetor

Synchronous DGES 38mm two-barrel (both barrels open at same time) that has proven successful in oval track racing. For engines 2000cc and over. Requires air filter P/N 120-99217-400. For 20R/22R engines, must use adapter P/N 120-99004-222. **Pt. No. 120-18930-020**

## Weber Downdraft Carburetor

Same as above, except with water-operated choke instead of electric. **Pt. No. 120-18930-032**

## Weber Sidedraft Carburetor

For racing only. A DCOE 40mm with no vacuum distributor advance fitting. Adaptable through replaceable venturis; full jet range available. Carb only; can be mounted with any TRD manifold and Mikuni linkage kit (P/N 116-Z60-1001). **Pt. No. 120-19550.174**

## Weber Sidedraft Carburetor

For racing only. DCOE 48mm is similar to P/N 120-19550-174 above. Should be used with larger displacement race engines. Definitely not streetable. **Pt. No. 120-19630.0007**

## Weber Downdraft Carburetor

Progressive two-barrel DGV 32/36mm for street and mild race engines. Good torque suits it for 4x4 trucks. Mechanical secondaries. Improved flow characteristics over stock carbs should increase fuel economy in moderate driving. **Pt. No. 120-22680-005**

## Weber Sidedraft Carburetor

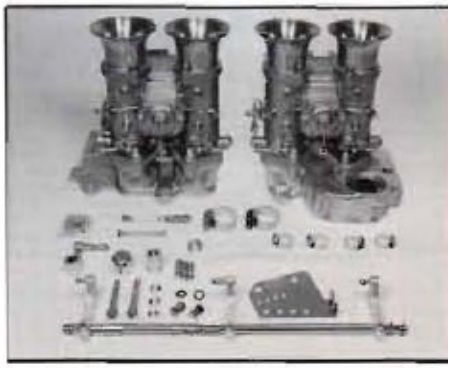
For racing only. Weber DCOE 45mm with manual choke. Similar to P/N 120-19550-174. **Pt. No. 120-19600.060**

## Carburetor Kits

These kits provide everything need to change carburetors, including the carb(s), linkage, manifold and all hardware. Just add labor and air cleaners. Kits are often cheaper (and certainly easier) than finding and buying individual parts.

## Corolla 2TC, 3TC Dual Mikuni Kit

Two sidedraft Mikuni 40PHHs, plus linkage, manifold, hardware. Ideal for use with cam and headers. Use air cleaners P/N 107-56-1310 (1¾" tall) or P/N 107-56-1320 (3¾" tall). **Pt. No. 116-Z40-510**



**Not legal for use in California on pollution-controlled motor vehicles.**

## Supra/Cressida/MR2/Truck Filter

For '86½–90 Supra (including turbo), '87–88 Cressida, '87–89 MR2, 3VZN '88–90 trucks, '88–8 4Runner.

**Pt. No. 17800-E260**

## Corolla/Tercel Filter

For '83–87 4AC Corolla, '86–88 Tercel.

**Pt. No. 17800-E269**

## Celica/Truck Filter

For '75–88 20R/22R trucks w/carbs, and same engines in '83–85 Celica.

**Pt. No. 17800-E282**

## Weber Downdraft Filter

For all Weber downdraft carburetors with progressive action.

**Pt. No. 120-99217.33**

## Synchronous Weber Downdraft Filter

For all Weber downdrafts with synchronous barrel operation.

**Pt. No. 120-99217.40**

## Universal Sidedraft Filter

For any sidedraft carburetor except 50mm and larger. Washable element has lifetime warranty fro manufacturer. Features chrome top and height is 3¾".

**Pt. No. 107-56-132**

## K&N Filter Cleaner

Cleaner and degreaser restores new performance. Wash off with water (biodegradeable). Will n harm paint, chrome, plastic or rubber. 32 oz. squirt bottle.

**Pt. No. 17850-062**

## K&N Filter Oil

For treating filter after cleaning.

**Pt. No. 17850-050**

## K&N Filter Care Kit

Cleaner and oil in oz. bottles.

**Pt. No. 17850-500**

## Carburetor Insulators

Serve as a heat sink to keep carburetor cool. Also reduces carburetor vibration. Easily installe between carb and manifold.

## Mikuni Insulator

Nylon insulator provided with 40mm and 44mm Mikunis. See next part, below.

**Pt. No. 116-Z70/05**

## Mikuni Insulator O-Ring

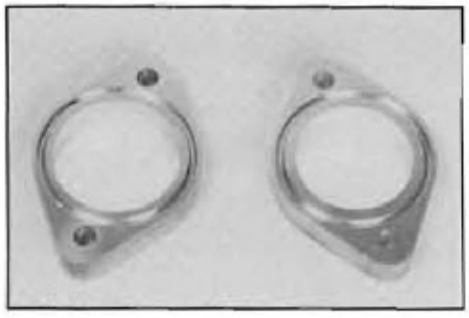
As supplied with carbs for use in insulator (see above).

**Pt. No. 116-Z70/07**

## Bakelite Insulator for Mikuni/Weber

Stock item used on 2TG/18RG engines. Ideal for use with any 40mm or 44mm carburetor.

**Pt. No. 21912-8821**



## Aluminum Carburetor Insulator

As above, except for 44 or 45mm carburetors.

**Pt. No. 21912-SP00**

## A/C Compressor Relocation Adapters

Non-stock intake manifold use can cause interference with, or lack of mounting for air conditioning compressor, which must be rel cated. These brackets do the job.

## 22R Celica/Truck A/C Adapter

For dual carb installation.

**Pt. No. 116-Z60-5431**

## 20R Celica/Truck A/C Adapter

As above, for the the 20R engine.

**Pt. No. 116-Z60-5430**

## Fuel Pump Block-Off Plate

For all Toyota engines. Use to block hole when stock fuel pump is eliminated and replaced by electric fuel pump, below.

**Pt. No. 11495-SP0(**

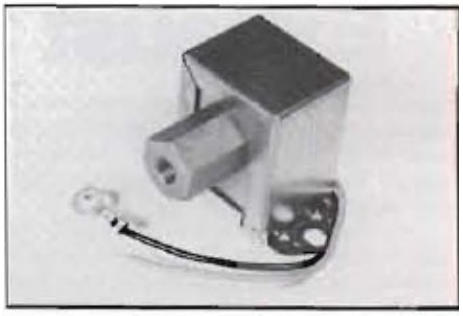


**Not legal for use in California on pollution-controlled motor vehicles.**

## Facet Electric Fuel Pump for Carbs

Replace stock mechanical fuel pump with this reliable, 4psi pump when converting from fuel injection to carbs. Stock pump provides too much pressure for carbs. See plate above. No pressure regulator required.

**Pt. No. 120-40105**



## Replacement Brass Fuel Pump Fitting

5/16" straight fitting as used on pump above.

**Pt. No. 120-479729**

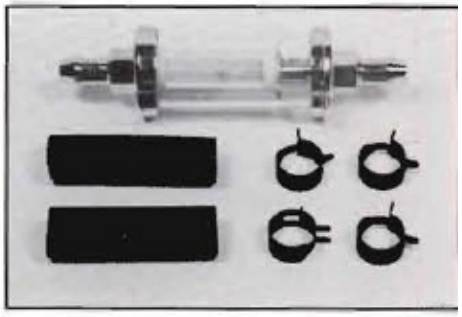
## Fuel Pressure Regulator

Stock mechanical fuel pumps produce too much pressure (4-6psi) for carburetors, which need only 2-3psi. This CR ProFuel Regulator is easily set to desired flow (from 1 to 5psi). For 8mm fuel line. **Pt. No. 120-99008.054**

## Disposable-Element Fuel Filter

Glass-bowl Fuel Filter with replaceable/disposable element. Visual inspection ensures fresh filter. In-line installation on 8mm fuel line.

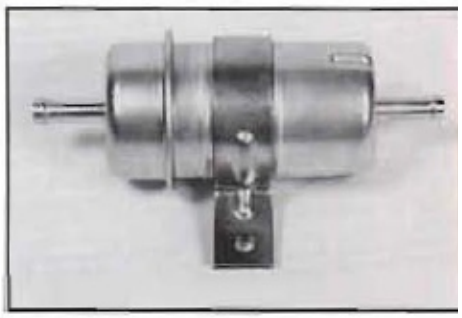
**Pt. No. 120-99008.805**



## Cannister-Style Fuel Filter

Has standard nipple-type ends for hose-clamping flexible fuel hose. Ideal for street use due to high flow rate, improved-over-stock filtration. Low cost. Install near fuel tank.

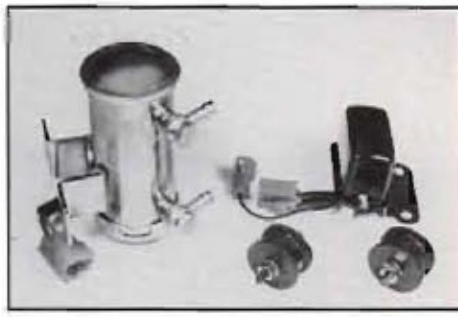
**Pt. No. 23300-SP001**



## Racing Fuel Pump

Designed by TRD for use on Group A international racers. Rated at 7psi and requires fuel pressure regulator (see above) for street use.

**Pt. No. 23100-SP001**



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# 2 Exhaust System

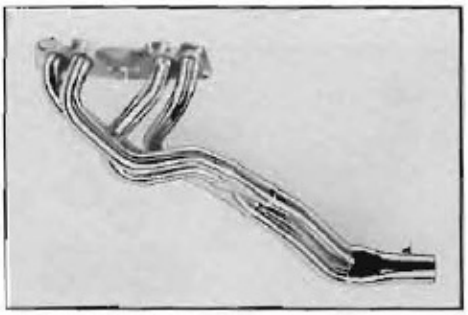
Adding a header and a larger-diameter exhaust system with low-restriction muffler to an otherwise stock engine should improve power output by 10 to 15 percent. And a good exhaust system will assure that you get the maximum performance gain from any other engine modification.

TRD headers are furnished complete with reducers, gaskets and installation instructions. They use 14-gauge tubing, ⅜" thick flanges to eliminate warpage and leaks and have durable nickel-chrome finish. Many are available without smog fittings for racing and pre-smog device applications.

HKS exhaust systems have large, 2.0 to 3.0" tubing, free-flowing mufflers, twin polished stainless steel tips and a resonator which c replace the catalytic converter for racing use. These systems are comp ible with all stock smog equipment, our headers and stock manifolds

## TRD Headers

TRD Headers are, unless noted, Tri-Y designs and will adapt easil stock exhaust systems or HKS's performance exhaust systems. required parts are supplied. Typically, headers bolt to either the st catalytic converter or the cat-replacing resonator in HKS exha systems.



### Celica, '75–85

Strong bottom-end and mid-range torque make this ideal for the street where legal. No smog connections. On some models, steering rod may have to be disconnected dur installation. **Pt. No. 128-50**

### Celica, '83–85

As above, with oxygen sensor added. For fuel injected Celicas. **Pt. No. 128-502**

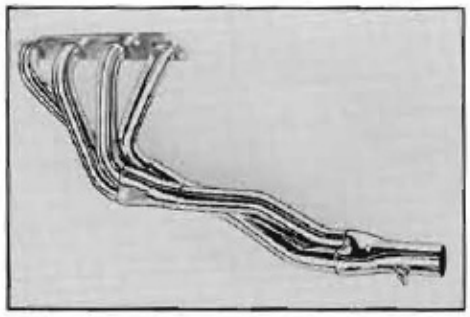
### Celica, '75–80

As above, with air injection fittings. **Pt. No. 128-502**

### Celica, '81–85

Similar to 128-502Y above. Includes smog fittings and oxygen sensor. On some models, between steering column and steering rack must be disconnected during installation.

**Pt. No. 128-502Y-**



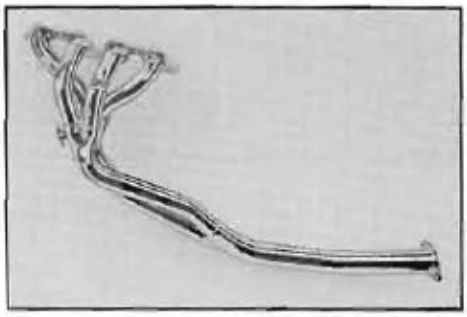
### Corolla, '75–83

Tri-Y design for the 2TC/2TG engine. Great bottom-end and mid-range torque for street/autocross/Solo use. May fit '74 and earlier. One of the best street headers available. Bolts directly to catalytic converter and is str legal. Carries limited lifetime warranty.

**Pt. No. 128-51**

### Corolla, '81–83

Same as header above, but with oxygen sensor for later Corollas. **Pt. No. 128-513**



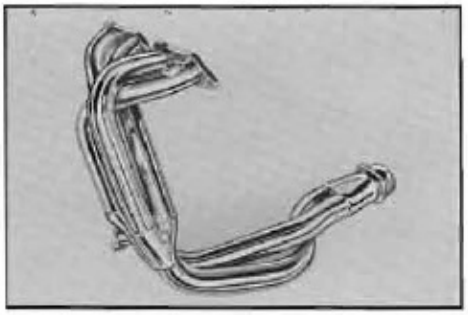
### Corolla GT-S '84–87

Tri-Y design has oxygen sensor fitting. The collector bolts directly to catalytic converter.

**Pt. No. 128-**



**Not legal for use in California on pollution-controlled motor vehicles.**



## MR2, '85–86

312.95

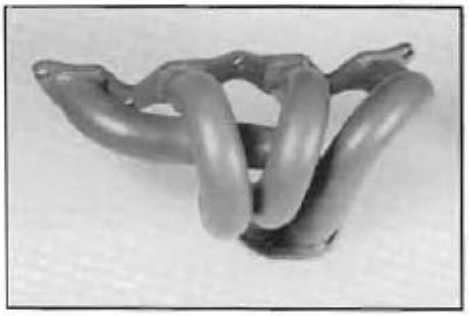
A great street header for the two-seater. Has oxygen sensor fitting. Collector bolts directly catalytic converter.

**Pt. No. 128-**

## MR2 Supercharged, '88–89

Same as above, adapted to Supercharged engine version.

**Pt. No. 128-**



## 18RG Racing Header

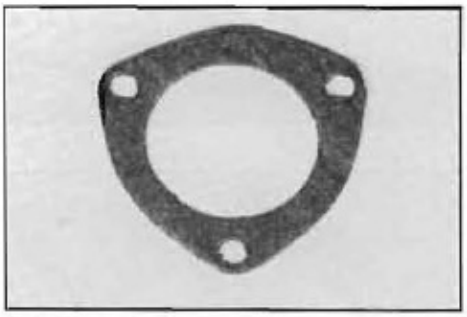
Only header available for this engine. Designed for racing Celica; adaptable to others. No head pipe provided, but uses stock part. Top section of header only: 4-into-2 provided; no 2-into-1 pipe. For all 18RG application. Must make head pipe to suit vehicle.

**Pt. No. 17104-RA**

## 2T/3T/2TG Racing Header

Same as above.

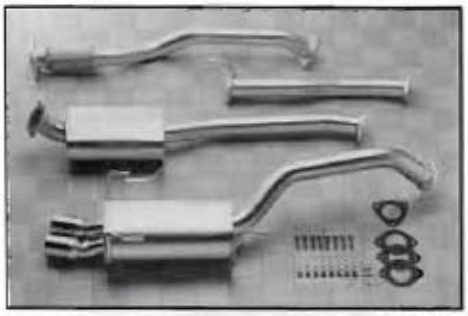
**Pt. No. 17104-TA**



## Header Flange Gasket

Replacement gasket for 3-bolt, 2½" header collector. Fits headers 128-502Y, 128-542Y, YS, YSO, YO, 128-550Y, YO, 128-555Y, 128-530Y, 128-513Y, YO, and 128-586.

**Pt. No. 128-9**



## HKS Exhaust Systems

All HKS Exhaust Systems feature aluminized steel tubing, aluminum coated for corrosion resistance. Supplied complete and ready for installation using stock hangers. Fully flanged, with resonator to replace catalytic converter for racing. Bolts to stock exhaust manifold/converter or to header. L restriction muffler included in the system. E on installation can produce up to 15% ho power increase, depending on engine stat tune.

**Complete Systems:**

| | |
|---|---|
| Celica GT-S, '86–89, 50mm dia. | Pt. No. 2051XX-11227K |
| MR2, '85–88, 50mm dia. | Pt. No. 2051XX-11323J |
| MR2 Supercharged, '88, 60 mm dia. | Pt. No. 2082XX-11333M |
| MR2 Turbo, '91, 65mm dia. | Pt. No. 2068XX-11328P |
| Corolla, '84–87, 50mm dia. | Pt. No. 2051XX-11423J |
| FX-16 GT-S, '86–88, 50mm dia. | Pt. No. 2051XX-11523L |
| Supra, '82–84, 60mm dia. | Pt. No. 2061XX-11024F |
| Supra, '85, 60mm dia. | Pt. No. 2061XX-11024J |
| Supra, '86–89, 60mm dia. | Pt. No. 2061XX-11025L |
| Supra, '87–90, 75mm dia. | Pt. No. 2078XX-11026L |
| Supra Turbo, '87–89, 65mm dia. | Pt. No. 2068XX-11026L |
| Celica All-Trac, '88, 65mm dia. | Pt. No. 2068XX-11228M |



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## SuperTrapp CD Mufflers

SuperTrapp is the best street and racing muffler system available. Patented diffusion discs can be added or removed to change the area of the exhaust opening. Adding discs (larger opening) increases horsepower, reduces backpressure and increases sound level. Reducing the number of discs increases torque, adds backpressure and cuts sound level. The tone is 'throaty.'

New SuperTrapp CD takes the diffusion discs that are the heart of the SuperTrapp design, combines them with a perforated core and replaceable fiberglass packing, and packs the whole assembly into the stainless steel or Ceramicoat™ black-paint finish steel case with removeable end-cap. (Disc adjustment is possible by removing the end-cap.)

Unlike past SuperTrapp mufflers, the new CD model (for concealed discs), has optional end-caps. The tapered-cone shown is standard, and there are slash-cut, short turn-out and long turn-out end-caps for sidepipe-style or under-vehicle exit. Also available is an in-line stub for mounting amidships just like any other muffler. Outlet is 2½" o.d., which fits many HKS exhaust systems.

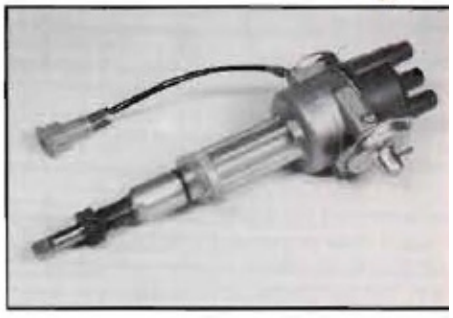
| Part No. | Description |
|---|---|
| 447-20220 | 4" disc dia., 2" inlet, Ceramicoat black |
| 447-22220 | 4" disc dia., 2¼" inlet, Ceramicoat black |
| 447-25220 | 4" disc dia., 2½" inlet, Ceramicoat black |
| 445-20220 | 4" disc dia., 2" inlet, stainless steel |
| 445-22220 | 4" disc dia., 2¼" inlet, stainless steel |
| 445-25220 | 4" disc dia., 2½" inlet, stainless steel |
| 447-93330 | Tapered cone end-cap, steel (standard w/above) |
| 445-93330 | As above, stainless steel |
| 447-93550 | Slash-cut end-cap, steel |
| 445-93550 | As above, stainless steel |
| 447-93680 | Short turn-out end-cap, steel |
| 445-93680 | As above, stainless steel |
| 447-93612 | Long turn-out, end-cap, steel |
| 445-93612 | As above, stainless steel |
| 447-93450 | In-line stub end-cap, 2½" o.d. outlet, steel |
| 445-93450 | As above, stainless steel |

# 3 Ignition System

A quality high performance ignition can dramatically improve the power and "crispness" of an otherwise stock engine, and can deliver more of the power potential in other modifications. If you're adding better cams and improved carburetion, just as you need a free-flowing exhaust system to deal with the waste products of combustion, you'll need a hotter ignition system to fire the more dense fuel/air mixture.

TRD offers its own electronic distributors, along with a selection o companion products from MSD. Our testing has shown MSD ignitio components to be as solidly performing and durable as our own item

## TRD Electronic Distributor, 2TG/2T/3T



Ideal for switching from fuel injection to carburetors. As used in the Japanese home-market 2TG engine. Most powerful and accurate ignition available for these engines. Initial timing should be set at 12 BTDC for mild (streetable) engines. Requires MSD-5, -6 or -6T ignitor.

**Pt. No. 19100-88263**

## TRD Electronic Distributor, 18RG

For 18RG only; will not fit 18RGU. Same as above except for application. **Pt. No. 19100-88271**

## MSD-5 Ignition Control Box


Engineered for stock or nearly stock engines. Use when no other engine modifications are planned. Provides increased mileage, better performance, faster starts. For best output, combine with Blaster Coil, below.

**Pt. No. 115-MSD-5200**

## MSD-6A Ignition Control Box

A multiple-spark discharge system for modified engines. Use with any points-type or electronic ignition. The MSD-6A replaces the stock ignitor and multiplies spark by 3-4 times. With electronic ignition, order P/N 115-MSD-8910 tach adapter. Add a Blaster Coil (below) for a racing level spark. Will improve performance an mileage...a "no negatives" system.

**Pt. No. 115-MSD-624**


## MSD-6T Ignition Control

Same as above, but with addition of a rev limiter output for use with the Soft Touch Rev Limiter below. Very successful in many forms of racing and can be used on the street.

**Pt. No. 115-MSD-644**

## MSD Blaster 2 Coil

45,000-volt coil for use in any type of ignition system. Perfect for use with MSD-5/6 ignition control

**Pt. No. 115-MSD-820**


## MSD Soft Touch Rev Control

Inexpensive (by comparison) protection against over-revving. All it takes is a missed shift, a broken driveshaft or axle or a wet patch on the road to send rpm skyward and a rod into the pan. Computer circuitry drops one cylinder at a time, firing it on the next cycle. Supplie with 6,000, 7,000 and 8,000 rpm module others available. For non-capacitive discharg systems.

**Pt. No. 115-MSD-872**

## MSD Soft Touch Rev Control

Same as above, but for capacitive discharge systems.

**Pt. No. 115-MSD-873**

## Chip Kit for Rev Limiter

Chip kit for the Soft Touch Rev Limiter: 7,000-7,800 rpm.

**Pt. No. 115-MSD-874**

## MSD RPM Module Selector

Plugs into all MSD Soft Touch Rev Controls and accessories. Twelve rpm limits can be set in 200-rpm increments by simply turning a knob. Ranges from 6,000 to 8,200 rpm.

**Pt. No. 115-MSD-867**

## MSD RPM Module Selector

Same as above, except rpm range from 7,600 to 9,800 rpm.

**Pt. No. 115-MSD-867**

## MSD Electronic Tach Module

Necessary when running MSD ignition with electronic tach. Prevents the tach from reading all th ignition pulses.

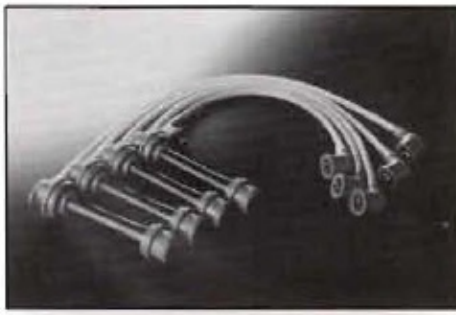
**Pt. No. 115-MSD-891**



**Not legal for use in California on pollution-controlled motor vehicles.**

## TRD Spark Plug Wire Sets, complete

| Application | Part Number |
|---|---|
| Corolla, '75–82/All 2T/3T engines | 90919-TE751 |
| Corolla, '85–87 | 90919-AE851 |
| Corolla GT-S, '88–89 | 90919-AE901 |
| Corolla 4AF, '87–90 | 90919-AE911 |
| FX16, '86–88/MR2 '85–89 Non-Supercharged | 90919-AEA51 91.95 |
| Supra, '82–85/'84–87 Cressida | 90919-MZ151 |
| All 18RG engines | 90919-RA651 |
| All 20R/22R engines | 90919-RN451 |
| All 2TG engines | 90919-TA651 |



## Nippodenso Spark Plugs

These are racing spark plugs only and cannot be used on the street.

| Application | Part Number |
|---|---|
| W25EPG, for 2T/3T/2TG/18RG/20R/22R/22RE | 10901-SP001-25 |
| Q24PR-ZU, for 4AG/3SG/7MG/7MGT | 10901-SP022-24 |
| Q29, for 4AG/3SG/7MG/7MGT | 10901-SP031-29 |
| Q31, for 4AG/3SG/7MG/7MGT | 10901-SP031-31 |

**NOTE:** Q29 and Q31 plugs good for engine speed beyond 8,000 rpm.

# 4 Valvetrain, Cams

Modification of an engine's valve timing and valve size is best approached with a degree of caution. TRD U.S.A. offers a wide range of cams and related components for Toyota engines and has performed extensive dyno testing to assure the accuracy of the recommendations provided for each cam.

For otherwise stock engines, the mildest cams listed should perform well. These will, however, perform best with improved carburetion (fuel flow in) and exhaust system (waste products out). Use of TRD Adjustable Timing Gears to advance or retard stock cams can deliver a modest performance increase (see Cam Timing, below).

The hotter TRD cams will **require** improved carburetion and exhaust systems, and the more radical cams require special pistons to provide valve clearance due to the greatly increased valve lift.

Please note that TRD cams are ground only from factory cam blanks. Reground cams have a reduced base circle which changes the valvetrain geometry, resulting in loss of power and very rapid wear. Use only cams ground from new blanks.

It is also important to note that a change of cam requires replacing the lifters (if so equipped) and the rocker arms, to assure compatibility between the metals. The alternative is, commonly, a 360-degree base circle and no lobe from almost instantaneous wear. Valve springs should not only be replaced, but upgraded to assure that the valves can follow the more radical cam lobe profile. TRD offers dual (inner and outer) valve springs which are ideal for performance cam use. These springs require special TRD Valve Seats and Spring Retainers, which are listed on the following pages. The combination of TRD valves, seats and retainers assures proper spring location, proper valve action and eliminates coil spring binding, which can cause serious damage to the valvetrain (see drawing).

TRD Valves are available in sizes from 1mm to 3mm larger than stock. They are made of a special steel alloy, stellite coated, and are both strong and lightweight. All TRD Valves are lathe-contoured to maximize air flo and minimize weight.

### CAM TIMING

Cam timing must be set whenever a TRD Cam is installed, the cylinde head is milled or the valvetrain is disassembled (timing belt removed). O twin-cam engines, cam timing is especially critical, as the overla between intake and exhaust is affected.

Note that stock timing gears will not provide enough range of adjus ment to obtain proper lobe centers with most TRD Cams. We offe Adjustable Timing Gears to solve the problem.

In general, advancing a camshaft increases bottom-end power; retard ing a cam will increase top-end. On twin-cam engines, the lobe separa tion can be decreased to improve top-end or increased to improv bottom-end.

### PERFORMANCE SPECS

We provide typical power band information for all of the cam-shaft listed, and other performance information. These are typical and provid a good idea of what you can expect from the cams. The actual perfo mance of a given cam in your engine depends on several variables including type of carburetion/fuel injection, type of exhaust system, valv springs used and more.

Please note as well that on some twin-cam engines, the intake an exhaust cams can be used interchangeably, providing a wide range cams for these engines. Read the descriptions closely to help assur proper cam selection for your application. And remember, too muc camshaft will make an engine run worse, not better, so be honest wit yourself in evaluating what you want a cam to provide and also how yo will be driving, in addition to considering the other engine modification you intend to make.

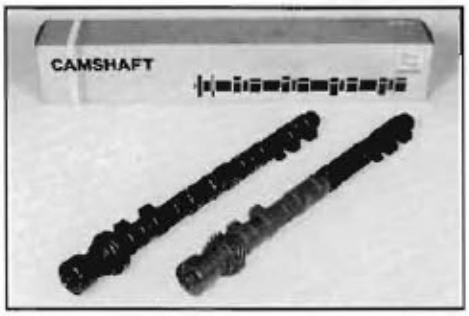
## TRD Camshafts

Listed by engine series, rather than car model. See Engine Codes, page 6.

## 20R/22R Street Performance Camshaft

A solid performer for the street. Pumps up the bottom-end, which improves street power and is very driveable.

Duration: 256°/284°. Lift: 7.0mm. **Pt. No. 13511-RN451**




## 20R/22R Street/Track Camshaft

Also delivers good bottom-end power, with some increases in mid-range and top-end. Easy to drive on the street, but with healthy power increase for Autocross/Solo use.
Duration: 280°/280°. Lift. 7.11mm.
**Pt. No. 116-03-0104-0**

## 20R/22R Racing Camshaft

Big increase in mid-range and top end with some sacrifice in bottom-end. Not the best street choice but can be used.
Duration: 304°/304°. Lift. 7.16mm.
**Pt. No. 13511-20R51**

## CAMSHAFT INTERCHANGEABILITY FOR 2TG, 18RG ENGINES

Please note that intake and exhaust cams for the 2TG and 18RG engines can be interchanged, i.e. an intake cam can be used as an exhaust cam and vice versa. This provides a wider selection of cam grinds. Also not that this cannot be done on other twin-ca engines. See note at beginning of 4AG engi camshafts.

## 2TG Street/Track Intake Cam

Power band is 3,000 to 7,500 rpm with P/N13502-TA051. For more punch, combine with P/N13502-TA052 (below) to move power band to 4,200 to 8,000 rpm (our most popular cam pair for this engine on the street). Latter pair is also a good combination for most types of racing. This cam also combines with P/N13502-88221 (below) exhaust cam for 4,500 to 8,500 rpm power band. Last combin tion not streetable, however it's a great racin only pairing. Requires TRD Pistons for valv clearance.
Duration: 304°. Lift: 10mm.
**Pt. No. 13501-TA05**

## 2TG Street Exhaust Cam

Combine with P/N13501-TA051 for 3,500 to 7,500 rpm power band.
Duration: 272°. Lift: 10.0mm.
**Pt. No. 13502-TA05**

## 2TG Street/Track Exhaust Cam

Combine with P/N13501-TA051 for 4,200 to 8,000 rpm power band. Streetable combination (o most popular for this engine).
Duration: 288°. Lift: 9.6mm.
**Pt. No. 13502-TA05**

## 2TG Racing Exhaust Cam

Combine with P/N13501-TA051 intake cam for 4,500 to 8,500 rpm power band. Not a streetable combination; has great power for racing applications. Requires increased compression and pistons cut for valve relief/clearance.
Duration: 304°. Lift: 10.7mm.
**Pt. No. 13502-8822**

## 2TG Racing Int./Exh. Cam

As intakes and exhausts are interchangeable, this provides a big 320 degrees of duration when used on both sides. Power band is 5,000 to 8,500 rpm. For pro race engines only.
Duration: 320°. Lift: 10.7mm.
**Pt. No. 13501-8822**

## 18RG Street/Track Exhaust Cam

Power band is 3,000 to 7,500 rpm with P/N1327KX-10016X. For more punch, combine with P/N1327NX-10016X to move power band to 4,200 to 8,000 rpm. Latter pair is also a good combination for most types of racing. You can use two of these (as both intake and exhaust) for a 4,500 to 8,500 rpm power band. This la combination is not streetable but is great f racing. Requires TRD pistons for valv clearance.
Duration: 304°. Lift: 10.5mm.
**Pt. No. 1327TX-10016**

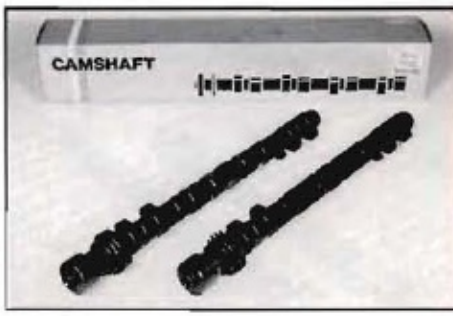
## 18RG Street/Track Exhaust Cam

Delivers a strong power increase in the 2,500 to 6,500 rpm range. A really good street cam is combination with P/N13502-RA051 listed below. No other modifications required. Provides more of the power available from fu system and exhaust system improvement
Duration: 288°. Lift: 10.5mm.
**Pt. No. 1327NX-10016**

## 18RG Street/Track Exhaust Cam

A very flexible design suited to handling exhaust valves at several performance levels. Combine with P/N13502-RA052 (above) or P/N1327TX-10016X (below).
Duration: 272°. Lift: 10.5mm.
**Pt. No. 1327KX-10016**

# TOYOTA RACING DEVELOPMENT




## 2T/3T Street Performance Camshaft

Delivers solid bottom-end, good mid-range, modest top-end increases. A good performer on the street and for frequent Autocross competition.
Duration: 280°/280°.
**Pt. No. 135-TE280**

## 2T/3T Street/Track Camshaft

Less bottom-end than P/N135-TE280, but more top-end. Still very driveable on the street. Good cam for Solo racing.
Duration: 286°/286°. Lift: 11.8mm.
**Pt. No. 135-TE286**

## 4AG CAM INTERCHANGEABILITY

On the 4AG engine, exhaust cams can be used as intake cams. Intake cams, however, cannot be used as exhaust cams as they have no distributor drive gear.

## 4AG EFI Street Performance Intake Cam

A proven performer for stock or near-stock engines with factory electronic fuel injection (EFI). Good bottom-end power for stop sign getaway and plenty of mid-range for passing.
Duration: 256°. Lift: 7.6mm.
**Pt. No. 1326BX-10023X**

## 4AG EFI Street Performance Intake Cam

A proven performer for stock or near-stock engines with factory electronic fuel injection (EFI). Good bottom-end power for stop sign getaways and plenty of mid-range for passing.
Duration: 256°. Lift: 7.6mm
**Pt. No. 1326BX-10023X**

## 4AG EFI Street Performance Exhaust Cam

Matching cam for 1326BX-10023X. Improved exhaust system helps this pair reach full potential.
Duration: 264°. Lift: 7.6mm.
**Pt. No. 1326FX-10023X**

## 4AG Street/Track Intake Cam

Strong power increase from 3,500 to 6,000 rpm. Can be used with stock EFI, but best with upgrade to carburetors. Good cam for auto-cross, Solo, road racing or rally use. TRD valvetrain recommended.
Duration: 272°. Lift: 7.5mm.
**Pt. No. 13501-AE871**

## 4AG Street/Track Exhaust Cam

Companion for 13501-AE871. Works with EFI; best with carbs.
Duration: 272°. Lift: 7.5mm.
**Pt. No. 13502-AE871**

## 4AG Street/Track Intake Cam

Very strong power increase from 4,000 to 7,000+ rpm. Has less bottom-end than 13501/02-AE871, and thus less streetable. Will not work with EFI; requires carbs.
Duration: 288°. Lift: 7.5mm.
**Pt. No. 13501-AE861**

## 4AG Street/Track Exhaust Cam

Companion cam for 13501-AE861. Not EFI-compatible.
Duration: 288°. Lift: 7.5mm.
**Pt. No. 13502-AE861**

## 4AG Street/Track/Rally Intake Cam

Developed for Group A racing by TRD Japan. Power band is 4,500 to 7,000+ rpm. Requires TRD valvetrain, but no head modifications. Could be used on the street, but bottom-end is not strong.
Duration: 304°. Lift: 7.5mm.
**Pt. No. 13501-AE851**

## 4AG Street/Track/Rally Exhaust Cam

Companion cam for 13501-AE851. Not EFI compatible. Will rev to 8,000 rpm. Can be used for both intake and exhaust.
Duration: 304°. Lift: 7.5mm.
**Pt. No. 13502-AE851**

## 4AG Street/Track/Rally Camshaft

A high-lift cam, requiring head modification to clear cam lobes. Has good bottom-end torque and strong mid-range. This is an exhaust cam that works well as both intake and exhaust. Revs to 7,500 rpm.
Duration: 272°. Lift: 10.0mm.
**Pt. No. 13502-AE831**

## 4AG Race/Rally Camshaft

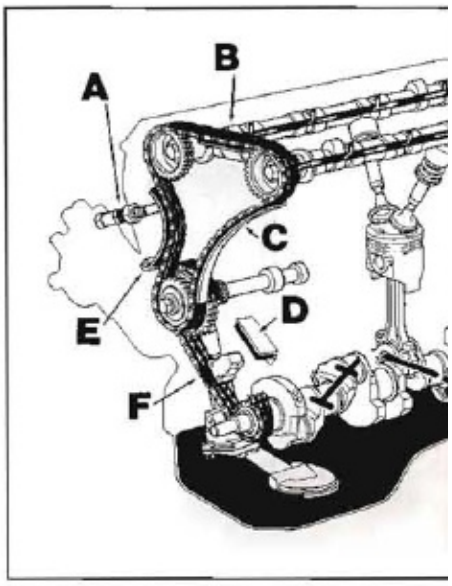
A high-lift cam with more mid-range and less bottom-end than 13502-AE831. Revs to 8,000 rpm, which is the limit of the 4AG. Requires head modifications to clear cam lobes. An exhaust cam that works well as a matched pair for intake and exhaust use.
Duration: 288°. Lift: 10.0mm.
**Pt. No. 13502-AE821**

**Not legal for use in California on pollution-controlled motor vehicles.**

# TOYOTA RACING DEVELOPMENT

## Chain Guides (Slippers, Dampers, Tensioners)

| Description | Part No. | Drawing I.D. |
|---|---|---|
| 2TG #2 Tensioner | 13550-88210 | A |
| 2TG/18RG #2 Tensioner | 13550-88270 | A |
| 2TG/18RG #2 Damper | 13562-88280 | B |
| 2TG #3 Damper | 13563-88220 | C |
| 18RG #3 Damper | 13563-88250 | C |
| 2TG #1 Damper | 13561-25010 | D |
| 18RG #1 Damper | 13561-34010 | D |
| 2TG Slipper C | 13559-88260 | E |
| 2TG/18RG Slipper C | 13559-88270 | E |
| 18RG Tensioner A | 13540-33014 | F |
| 2TG Tensioner A | 13540-88221 | F |




**A:** #2 Tensioner **D:** #1 Damper

**B:** #2 Damper **E:** Slipper 'C'

**C:** #3 Damper **F:** Tensioner 'A'

## 2TG/18RG Cam Gear Pin

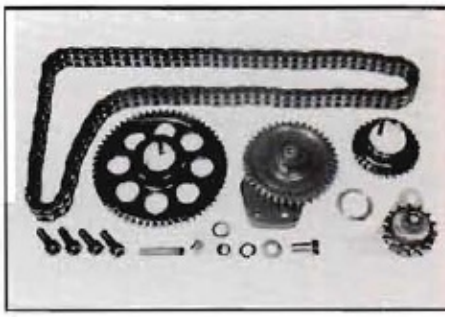
Stock replacement part.

**Pt. No. 90072-25005**

## 2T/3T/2TG Camshaft Gear Drive Kit

Replaces stock chain and gears for direct gear-to-gear drive and greater valve timing accuracy. Ends progressive changes in cam timing due to chain wear/stretch.

**Pt. No. 1040XX-10014X**



## 2TG/18RG Cam Gear Oil Squirter

Stock replacement part.

**Pt. No. 90072-73103**

## Valves

TRD offers rugged steel valves with stellite-coated tips for longer wear. Both standard and oversize valves are available. Should be used with TRD dual valve springs for optimum performance. Oversize valves should be used with TRD camshaft(s).

| Engine | Description | Part No. |
|---|---|---|
| 4AG | 32.2mm intake (1.5mm o'size) | 13711-AE801 |
| 20R/22R | 44mm intake (1mm o'size) | 13711-20R51 |
| 18RG | 46mm intake (std. size) | 13711-88212 |
| 18RG | 47mm intake (1mm o'size) | 13711-RA051 |
| 2TG | 44mm intake (std. size) | 13711-88224 |
| 2TG | 45mm intake (1mm o'size) | 13711-TA001 |
| 2TC/3TC | 43.5mm intake (3.5mm o'size) | 13711-TE002 |
| 4AG | 27.5mm exhaust (1.5mm o'size) | 13715-AE801 |
| 20R/22R | 37mm exhaust (1mm o'size) | 13715-20R51 |
| 18RG | 40.5mm exhaust (1mm o'size) | 13715-RA052 |
| 2TG/18RG | 37.5mm exhaust (std. size) | 13715-88222 |
| 2TG | 38.5mm exhaust (1mm o'size) | 13715-TA001 |
| 2TC/3TC | 38.5mm exhaust (3.5mm o'size) | 13715-TE002 |

## Valve Seats for Oversize Valves

For use with TRD oversize valves only. For stock-diameter TRD valves, use stock Toyota valve seats.

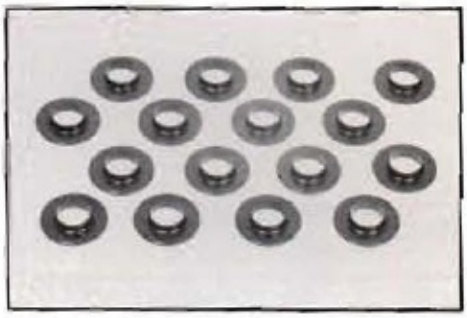
| Engine | Part No. |
|---|---|
| 4AG intake | 11131-AE851 |
| 4AG exhaust | 11135-AE851 |
| 2TC/3TC int. | 11131-TE001 |
| 2TC/3TC exh. | 11135-TE001 |

**Not legal for use in California on pollution-controlled motor vehicles.**

## Valve Spring Seats

Specially designed for use with TRD dual valve springs (except 4AG engine, for which single and duals are offered). Required when using TRD springs.

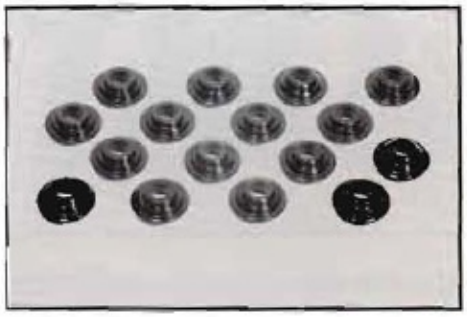
| Engine | Part No. |
|---|---|
| 4AG (single) | 13743-16010 |
| 4AG (dual) | 13735-FT001 |
| 20R/22R | 13734-20R52 |
| 2TG/18RG | 13734-TA001 |
| 2TC/3TC | 13734-TE001 |



## Valve Spring Retainers

Specially designed TRD Retainers are for use with TRD dual valve springs only, where they are required. Note special retainer for 4AG single valve spring retainer and Toyota Atlantic retainer for use with 4AG dual valve springs (P/N26945/26946-FT002).

| Engine | Part No. |
|---|---|
| 4AG (single) | 13741-AE801 |
| 4AG (dual) | 13741-FT001 |
| 20R/22R | 13741-20R51 |
| 2TG/18RG | 13741-TA001 |
| 2TC/3TC | 13741-TE751 |



# 5 Short Block Parts

All of the parts which fit inside, or attach to the engine block are shown here. This includes crankshafts, pistons, rods, oil pumps and windage tray. Main and connecting rod bearings are included here; all short block gaskets are in the following section.

## Piston Sets

TRD offers our specially designed oversize forged piston sets for increased displacement. Enlarging the bore while retaining stock stroke typically increases top-end power more than bottom-end and increases the rpm potential peak, especially when using a TRD performance cam. Sets include rings and installation information, such as ring end gap. Except as noted, pistons accept stock rods and wrist pins.

| Engine | Compression Ratio | Final Displacement | Overbore | Part No. | Notes |
|---|---|---|---|---|---|
| 4AG | 12.0:1 | 1650 cc | 0.5mm | 198-3189CX-0 | 1 |
| 4AG | 12.0:1 | 1597 cc | Standard | 198-3189XC | |
| 2TG, 3T | 10.5:1 | 2000 cc | 4mm | 198-6094PS | 2 |
| 2T | 10.5:1 | 1750 cc | 4mm | 198-6100PS | |
| 18RG | 10.5:1 | 2000 cc | 3.5mm | 198-6096PS | |
| 20R/22R | 10.5:1 | 2400 cc | 4mm/0.5mm | 198-6101PS | Cyl 1 & 3 |
| 20R/22R | 10.5:1 | 2400 cc | 4mm/0.5mm | 198-6102PS | Cyl 2 & 4 |

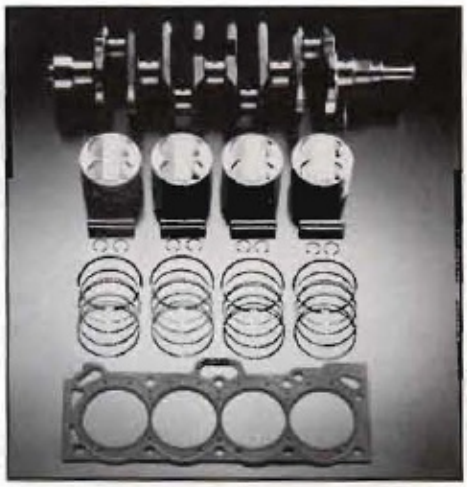
**NOTES:**

1. Requires Carrillo rods, part no. 104-CARR4AG, and large dia. wrist pins, as used on all '87 and later 4AG (MR2) engines, or you can use stock '87 and later 4AG rods and wrist pins.
2. Hollow piston dome for lower weight, increased rpm.

## 4AG Stroker Kit

Maximum safe displacement (1711cc) for the 4AG engine is achieved by using this stroker kit, which includes a forged, long-stroke crankshaft, cast 10.5:1 pistons with valve relief pockets, and piston rings. Use either stock '85–86 4AG rods and 18mm wrist pins, or Carrillo rods (our part no. 104-CARR4AG). Rod big-end bearings should be part no. 13281-AE801-01, 02 or 03, listed following. This stroker kit makes a major improvement in bottom-end power.

**Pt. No. 1029JD-10023X**



## Oil Pump Gearset for 4AG

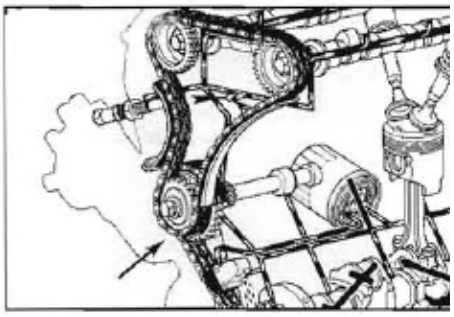
Hardened steel gears replace the stock items inside the oil pump to increase volume of oil available to prevent engine damage at high rpm. Used in Japan for race and rally applications by TRD factory teams.

**Pt. No. 15103-AE852**

## 18RG Oil Pump Drive Gears

Replacement oil pump drive gears (mount to pump driveshaft in back of cam drive) not available from U.S. dealers. Often referred to as a timing gear. See timing gear on page 22.

**Pt. No. 13515-88211**



## 2TG, 18RG Crankshaft Gear

Stock replacement for the crankshaft nose gear. Not available from U.S. dealerships.

**Pt. No. 13521-33010**

## 2TG, 18RG, 18RC Oil Pump Drive Gear

Stock replacement for the original gear. Not available from U.S. dealerships.

**Pt. No. 13522-33010**

## 2TG, 18RG Idler Gear

Stock replacement for the idler gear (between crank and cam gears). Not available from U.S. dealerships.

**Pt. No. 13528-33010**

## Crankcase Vent/Filter

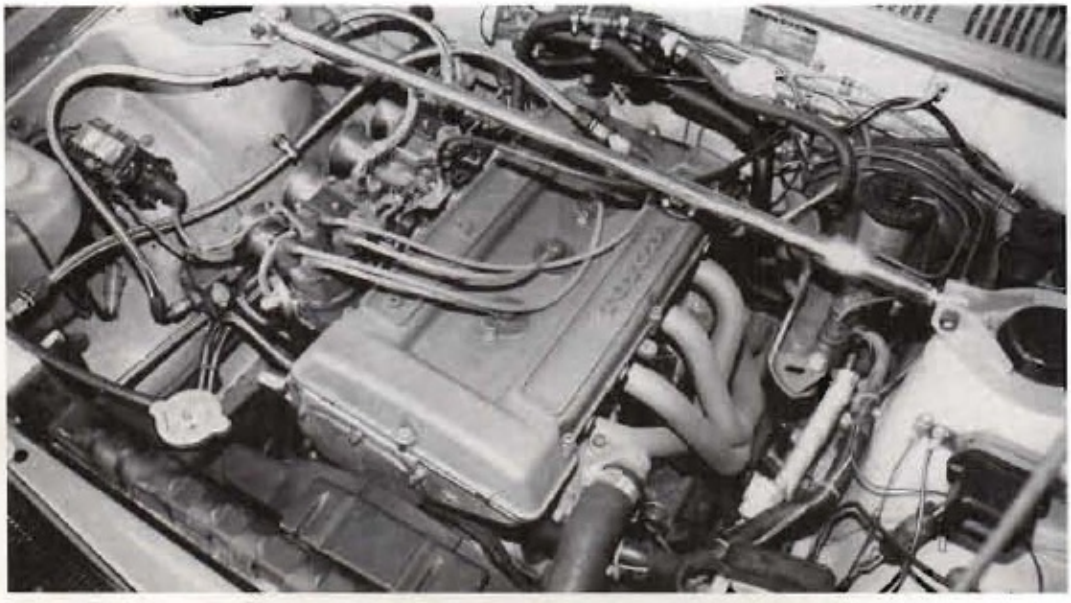
A rugged, steel-base vent and filter to relieve pressure in the crankcase. Has 2" diameter and 5/8" hose-fitting threaded coupling. Height is 1½".

**Pt. No. 107-62-1020**

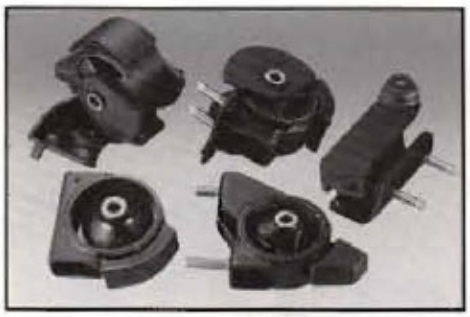
## Clamp-On Crankcase Vent/Filter

Similar to above, but clamp-on instead of threaded fitting. For 5/8" hose (to be secured with hose clamps). Filter is 2" diameter with 1½" height.

**Pt. No. 107-62-1340**



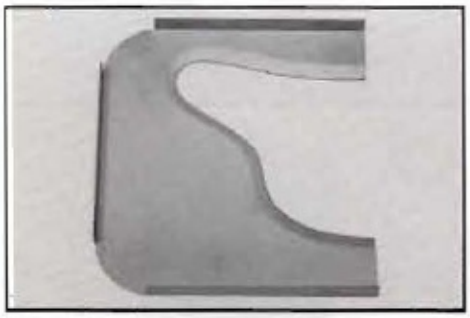
*Conversion from 3TC to 2TG in '75 through '82 Corolla chassis is a popular swap. The Japan-only 2TG has more performance potential.*



## Engine Mounts

These are rubber, or rubber and steel motor mounts using much higher durometer (stiffer) rubber than stock mounts. Reduces engine movement from torque and helps stiffen front of chassis for greater suspension alignment compliance during cornering. Used in racing in Japan, but suitable for street use as well. Some are more complex than others; most are inexpensive.

| Application | Part No. |
|---|---|
| Corolla, '85–87, front | 12361-AE851 |
| Corolla, '88–90, front | 12361-AE901 |
| Corolla, '88–90, right | 12362-AE901 |
| Corolla, '88–90, left | 12372-AE901 |
| Corolla, '88-90, center | 12363-AE901 |
| Corolla, '88-90, right rear | 12371-AE901 |
| MR2, thru '89, front | 12361-AW101 |
| MR2, '86 Aug.–'87 July, right | 12362-AW101 |
| MR2, '87 July–'89, right | 12362-AW111 |
| MR2, thru '89, non-superch'd. rear | 12371-AW101 |
| MR2, thru '89, non-superch'd, left | 12372-AW101 |
| MR2 thru '89, Supercharged, rear | 12371-AW111 |
| MR2, thru '89, Supercharged, left | 12373-AW101 |
| FX16, front (1 pc.) | 12361-AEA01 |
| FX16, rear | 12371-AEA01 |
| FX16, left | 12372-AEA01 |
| FX16, right | 12362-AEA01 |
| 2TG, 3T, 2TG, front | 12361-TA051 |
| AllTrac, right | 12362-STA01 |
| AllTrac, left | 12372-STA01 |
| AllTrac, rear | 12371-STA01 |
| AllTrac, front | 12361-STA01 |

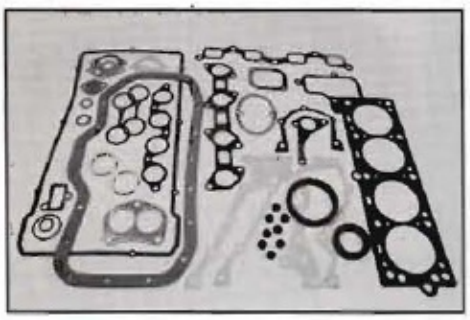


## 2TC, 3TC, 2TG Windage Tray

Weld-on baffle fits between block and oil pan. Keeps oil from moving away from pick-up during braking, cornering and acceleration. Also prevents crankshaft from passing through oil, oil froth, for power increase, easier revving through lower friction. **Pt. No. 12121-TE051**

# 6 Gaskets

All engine gaskets, from carburetor gaskets to oil pan are contained here. We have full engine rebuild gasket sets, as well as individual gaskets. All gaskets have been proven by our in-house engine building department, with many having been used in the Toyota Atlantic and IMSA GTP engines we build.



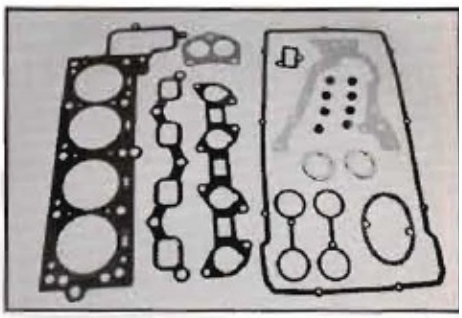
## Engine Overhaul Gasket Sets

These are complete Toyota factory overhaul gasket sets, many not available from U.S. dealerships. Semi-circular plugs not included (see below).

| Application | Part No. |
|---|---|
| 2TG | 04111-27034 |
| 18RG | 04111-34075 |
| 4AG | 04111-16024 |

# TOYOTA RACING DEVELOPMENT

## Top-End Overhaul Gasket Sets



Also factory sets, not available from U.S. Toyota dealers. Commonly called 'valve job gasket sets,' they include everything needed when doing a valve job/cylinder head installation except semi-circular plugs listed below.

| Application | Part No. |
|---|---|
| 2TG | 04112-27033 |
| 18RG | 04112-34037 |

## Semi-Circular Plugs

Not included in gasket sets above; not available from U.S. dealerships.

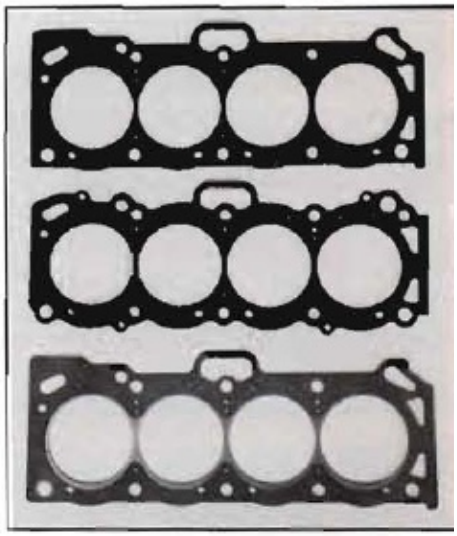
| Application | Part No. |
|---|---|
| 2TG | 11183-88210 |
| 18RG | 11183-88260 |

## Cam Cover, Spark Tower Gaskets

Factory made and not available from U.S. Toyota dealers.

| Application | Part No. |
|---|---|
| 2TG Cam Cover Gasket | 11213-88260 |
| 18RG Cam Cover Gasket | 11213-88270 |
| 2TG Spark Tower Gasket | 11214-88260 |
| 18RG Spark Tower Gasket | 11214-88270 |

## Cylinder Head Gaskets



TRD offers a wide range of materials, thicknesses and bore diameters (standard and overbore). Thin gaskets raise compression.

| Application | Bore Dia. | Thickness | Material | Part No. |
|---|---|---|---|---|
| 20R, 22R* | 92.5mm | 1.4mm | Asbestos | 11115-20R51 |
| 20R, 22R | 93.5mm | 1mm | Steel | 1392ZD-10018X |
| 2TG | 85mm | 1.4mm | Asbestos | 11115-88221 |
| 2TG | 88.5mm | 1.4mm | Asbestos | 11115-TA001 |
| 2TG | 90mm | 1mm | Steel | 1392VA-10014X |
| 2TG | 90mm | 2mm | Steel | 1396VA-10014X |
| 2TC | 90mm | 1mm | Steel | 1392VA-10012X |
| 2TC | 90mm | 2mm | Steel | 1396VA-10012X |
| 2TC, 3TC | 88.5mm | 1.25mm | Asbestos | 11115-TE051 |
| 18RG | 92mm | 1mm | Steel | 1392YA-10016X |
| 18RG | 92mm | 2mm | Steel | 1396YA-10016X |
| 18RG | 88.5mm | 1.25mm | Asbestos | 11115-RA001 |
| 22R | 93.5mm | 2mm | Steel | 1396ZD-10018X |
| 7MG | 86mm | 2.5mm | Metal | 1397PA-10025X |
| 4AG | 81mm | 1.1mm | Carbon | 11115-AE801 |
| 4AG | 81mm | 1.2mm | Asbestos | 11115-AE851 |
| 4AG | 82mm | 1mm | Steel | 1392KA-10023X |
| 4AG | 81mm | 0.8mm | Steel | 11115-AE811 |
| 5MG | 86mm | 2mm | Steel | 1396PA-10024X |

*Standard bore for 22R, overbore for 20R

## Intake, Exhaust Manifold Gaskets

These are factory Toyota gaskets, not available from U.S. dealerships.

| Application | Part No. |
|---|---|
| 2TG, intake | 17177-88220 |
| 18RG, intake | 17177-88270 |
| 2T, 3T, 2TG exhaust | 17173-88220 |
| 18RG exhaust | 17173-88250 |
| 20R, 22R for header* | 128-9542 |
| 5MG for header* | 128-9530 |

*Omits metal ring around port.

## Valve Stem Oil Seals for 2TG, 18RG

Rubber seals not available from U.S. dealerships. Included in o'haul, valve job gasket sets. Part no. for one seal, not complete set. **Pt. No. 90072-7220**

## Carburetor Gaskets

Base gaskets, fit between carb and manifold.

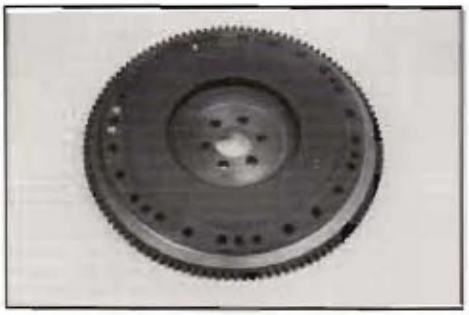
| Application | Part No. |
|---|---|
| Weber DGV | 120-99005.068 |

# 7 Drivetrain, Gears

All performance products from the back of the crankshaft through the differential and its gear are included here.

TRD aluminum flywheels will dramatically improve engine response, especially at low engine speeds, as the engine has to work less hard to spin the much lighter flywheel. While a light-alloy flywheel has benefits throughout the rpm range, it makes a street car much more enjoyable to drive in stop-and-go traffic and when getting underway from a dead start.

The pressure plates listed are dual purpose and can be used for stree or street/race or pure race applications. The metallic clutch discs a preferred for racing, and their sprung hubs allow use on the street, b flywheel wear will be accelerated and some clutch chatter is unavoidabl The Ferodo discs are better for the street and have good lock-up at ar rpm.



## Street, Racing Flywheels

Lightweight flywheels require less engine power to 'spin up.' The effect is most noticeable when making a standing start, accelerating from a cruise speed and other situations wh throttle demand is increased suddenly.

| Application | Part No. | Description/Clutch Type |
|---|---|---|
| **ALUMINUM: RACE–H-D STREET** | | |
| 2T, 3T, 2TG | 130-50-503 | Weighs 10 lbs. Has replaceable heat shield (facing). Use std. clutch. |
| 18RG | 130-50-504 | Weighs 12 lbs. Uses std. type clutch. Great for Autocross; can be used on street. |
| 20R, 22R | 130-50-505 | Same as above (No. 504) |
| **STEEL: RACE–AUTOCROSS** | | |
| 4AG | 13451-AE851 | Weighs 9 lbs. Racing, Autocross. Takes std. size clutch, accepts metallic, Ferodo and stock discs. |
| **STEEL: AUTOCROSS–STREET–DRAG** | | |
| 2TC, 3TC, 2TG | 13405-TA001 | Weighs 12.12 lbs. For street, drag or road racing. Accepts all clutch combos. |
| 18RG | 13405-RA051 | Weighs 15.5 lbs. Street, drag, road race. Takes metallic, Ferodo or std. clutch discs. |
| 4AG non-superchg'd. | 13451-AE862 | Weighs 13.4 lbs. Street, drag, road race, Autocross. Uses std. size discs; metallic, Ferodo or stock. |

**STEEL: STREET–AUTOCROSS**

Following 'wheels are high-tensile-strength ductile iron. Up to three times the strength of stock yet very light weight. Ideal for street performance and Autocross cars. Balanced. Standard-type clutch.

| Application | Part No. | Description |
|---|---|---|
| 2T, 2TG, 3T | 7020XX-10014X | Weighs 9.7 lbs. |
| 18RC, 18RG | 7020XX-10016X | Weighs 10.5 lbs. |
| 20R, 22R | 7020XX-10017X | Weighs 10.2 lbs. |
| 4AG: Corolla, '85–7; MR2, '85 & up; Corolla, FX16, '87 | 7020XX-10023J | Weighs 11.5 lbs. |
| 5MG: non-turbo Supra, '83–89 | 7020XX-10024X | Weighs 10.0 lbs. |

**NOTE:** For comparison, typical stock Toyota flywheel weights are 25 to 28 lbs. for cars and 30 to lbs. for trucks.

# TOYOTA RACING DEVELOPMENT

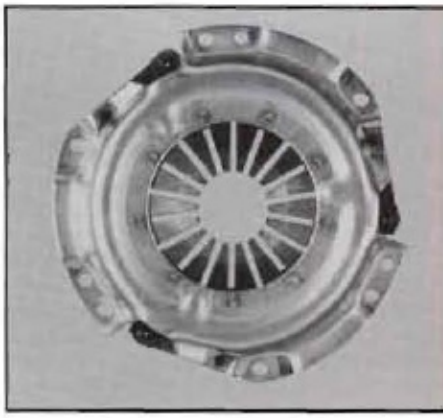
## Clutch Discs

Specially designed and manufactured by TRD for Toyota applications. An engine is only as good as the clutch's ability to transmit its power without slippage. Choice of friction materials: metallic with sprung hub, essentially for racing and Autocross and can be run on the street; Ferodo discs are better for street performance and have good high-rpm lock-up.

| Application | Part No. | Material/Diameter |
|---|---|---|
| 2T, 3T, 2TG | 31250-TE761 | Metallic/190x132mm |
| 2T, 3T, 2TG | 31250-TE004 | Ferodo/190x132mm |
| 18RG, 20R, 22R | 31250-RA661 | Metallic/224x160mm |
| 18RG, 20R, 22R | 31250-RA001 | Ferodo/224x160mm/Good for trucks |
| 4AG non-superchg'd. | 31250-AE851 | Ferodo/200x140mm |
| 4AG non-superchg'd. | 31250-TA461 | Metallic/200x150mm |
| 4AG superchg'd. | 31250-AW151 | Ferodo/212x140mm |
| 4AG superchg'd. | 31250-GA661 | Metallic/224x150mm |
| AllTrac | 31250-STA61 | Metallic/236x150mm |
| AllTrac | 31250-STA51 | Ferodo/236x150mm |

## Pressure Plates

These clutch covers are diaphragm-type, except as noted. Covers are 40% stiffer than stock and matched to the clutch hydraulic system.



| Application | Part No. |
|---|---|
| Corolla, '75–82; all w/2T, 3T, 2TG engine; 190x132mm | 31210-TA053 |
| Corolla, '85–89; MRs, '85–86; FX16, '86–88; 200x140mm | 31210-AE851 |
| Celica, '86–89 (3SG); 224x150mm | 31210-GA752 |
| Celica/Truck w/18RG, 20R, 22R engine; 224x160mm | 31210-RA051 |
| MR2, '88–89 non-super; 212x140mm | 31210-AW151 |
| MR2 Supercharged; 224x150mm | 31210-AW161 |
| AllTrac, '88–89 | 31210-STA51 |

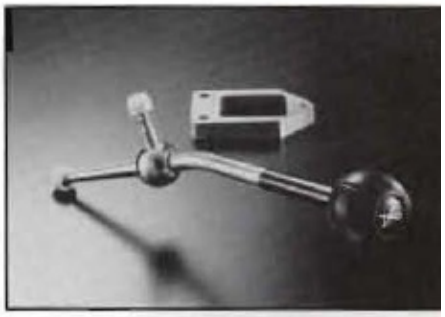
## Supra Complete Clutch Assembly

Clutch disc and pressure plate. Fits '83–89 non-turbocharged models.

**Pt. No. 7010XX-10024X**

## Quick Shift

Developed for Corolla and MR2 by TRD Japan. Cuts shift throws (at the knob) by 75% for 'flick-of-the-wrist' shifts.



| Application | Part No. |
|---|---|
| Corolla (AE92) | 30301-AE901 |
| MR2, thru '89 | 30301-AW101 97.95 |

## Transmission Gearsets

These are close-ratio gearsets designed for racing developed by TRD Japan. All have lower-than-stock first gear; some have overdrive top gear.

| Application | Ratios 1st/2nd/3rd/4th/5th | Part No. |
|---|---|---|
| T-50 Trans, Corolla, '83–87 | 2.341/1.607/1.195/1.00/.886 | 33030-AE811 |
| T-50 Trans, Corolla, '83–87 | 2.630/1.891/1.384/1.00/.861 | 33030-AE851 |
| C-50 Trans, MR2 non-supercharged | 2.438/1.944/1.600/1.364/1.167 | 33030-AE901 |
| C-52 Trans, Corolla FWD; FX16; MR2 non-superchg'd. | 2.929/2.176/1.700/1.364/1.167 | 33030-AEA11 |

## Supra Automatic Trans Kit

Valve body springs and clutch package to modify your transmission, providing much more positive shifts, shift points moved closer to power curve, reduced slippage.

**Pt. No. 7060XX-11026L**

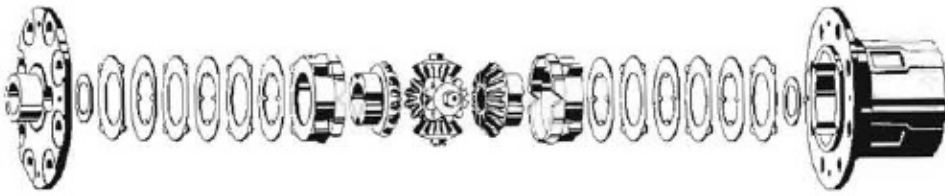
**Not legal for use in California on pollution-controlled motor vehicles.**

## Limited-Slip Differentials

These are TRD-manufactured clutch-type limited-slips. Ideal for street/ Autocross/ drag/road racing. Not stock limited-slips.

| Application | Part No. | Ring Gear Dia./Notes |
|---|---|---|
| Corolla GTS, '85–87 | 41301-AE801 | 6.7" |
| Corolla* w/6.38", non-SR5, to '79, all '80–83, SR5 '84–87 except GTS | 41301-TE003 | 6.3" |
| Corolla SR5, to '79; Celica RWD to '85; all straight axle to '86 w/6.7" ring gear* | 41301-TA004 | 6.7" |
| Celica, '86–88 | 41301-ST601 | Racing only |
| MR2 non-super, FX16 | 41301-AW001 | |
| MR2 Supercharged | 41301-AW002 | Cannot use 41201-AEA01, 51 gears |
| Supra, '86½–89 | 41301-MZ201 | See 41201-19555 (4.55:1) gear |
| AllTrac, '88–89 | 41301-AE802 | Requires 41309-STA01 stub axles |
| Trucks, 4WD to '88 | 41301-RN001 | 8"; Fits 2WD if using 4WD center housing |
| Trucks, all V-6 | 41301-VN001 | 8" |
| Trucks, 4WD, Indep. front suspension, 2WD, Supra '79–early '86 | 61-RA002 | 7.5"; with side-case bearings P/N 90368-50024 |

*Check axle code for ring gear diameter; see page 6.



## Limited-Slip Diff Clutch Packs

Replacement clutch package, complete, for limited-slip differential service.

| Application | Part No. |
|---|---|
| 6.7" Ring Gear Diffs | 40107-TA003 |
| 7.5" Ring Gear Diffs | 40107-RA002 |
| 8" Ring Gear Diffs | 40107-RN001 |

## Ring & Pinion Gearsets

Engineered for use with either stock or TRD limited-slip differentials. Ratios over 4.8 for cars are racing sets which require close-ratio gearset; these are too low for street use, as you run out of first gear in about six feet! Check rin gear diameter spec against vehicle axle cod (see page 6).

| Ring Gear Diameter | Gear Ratio | Part No. | Notes |
|---|---|---|---|
| 6.38" | 4.30 | 41201-19495 | Non-SR5 Corolla to '84, SR5, '80–87 |
| 6.7" | 4.10 | 41201-29197 | Same as above |
| 6.7" | 4.30 | 41201-29207 | SR5 Corolla; '74–79, GTS, '85–87; Celica straight axle to '85 |
| 6.7" | 4.55 | 41201-29625 | Same as above |
| 6.7" | 5.125 | 41201-TA003* | Same as above; race, need close-ratio |
| 6.7" | 5.38 | 41201-AE851* | Same as above; race, need close-ratio |
| 7.5" | 4.375 | 41201-39405 | 4WD front axle, '86–88; 2WD trucks with 7.5" ring gear dia. |
| 7.5" | 4.515 | 41201-39735 | Same as above |
| 7.5" | 4.875 | 41201-39745 | Same as 41201-39405 |
| 8.0" | 4.375 | 41201-39426 | 4WD trucks to '88; some 2WD trucks |
| 8.0" | 4.515 | 41201-29536 | 4WD; matching gear for 41201-39735 |
| 8.0" | 4.55 | 41201-19555 | Supra, '86½ and later |
| 8.0" | 4.875 | 41201-39696 | 4WD trucks to '88; some 2WD trucks; requires ring gear spacer |
| 8.0" | 5.25 | 41201-39HO1 | Same as above; requires gear spacer |
| 8.0" | 5.70 | 41201-20HO7 | Same as above; requires gear spacer |
| MR2, FX16 | 3.526 | 41201-AEA01 | Non-supercharged only |
| MR2, FX16 | 4.667 | 41201-AEA51 | Non-supercharged only |

*Special orde

## Ring Gear Spacer

8mm spacer required with ring & pinions 41201-39696, -39HO1 and -20HO7, above.

**Pt. No. 40109-RN00**

## Side Case Bearing for 7.5″ Diff

Pt. No. 90368-50024

## Limited-Slip Gear Oil Additive

Prevents clutch chatter in TRD limited-slip differentials. 9 oz. bottle provides one treatment.

Pt. No. 41900-OIL

# 8 Suspension System

Improving a car's handling is one of the most popular types of car modification, and with good reason. Cost is modest, and the improvement is easily felt from the driver's seat. Also, it's more practical to use better roadhandling than it is to find a place where you can use a 430 hp engine to its fullest. In addition to increasing cornering force capability, suspension mods add an element of safety by reducing braking distances and providing a greater margin for evasive action in an emergency.

There are six areas you can consider in modifying suspensions: tire pressure, alignment settings, replacement bushings, sway (or anti-roll) bars, shock absorbers/struts and springs. All are important. Let's take them in order.

### TIRE PRESSURES

First, check the sidewall of your tires. Read the small print on the sidewall and you'll find a maximum load rating and related tire pressure. We do not recommend exceeding the tire pressure listed for safety reasons. Increasing pressure up to that limit often pays handling dividends, however.

A practical method of setting ideal tire pressure is to make chalk marks on the sidewalls, at 90-degree intervals, running from the wheel outward to the beginning of the tread. Drive the car in the manner you intend to use it, then inspect the sidewalls of all four tires. Contact with the ground will have rubbed off some chalk. Adjust pressure until the chalk line remains to the point where the sidewall and the tread edge meet. If pressure is too low, you'll rub off chalk on the sidewall. Don't be surprised if you wind up with a pressure setting as much as 10 psi over stock. This should be repeated after each step of suspension modification, as new pieces will change the pressure requirement for optimum tire use.

### ALIGNMENT SETTINGS

There's more to the story than keeping all four tires on the ground; y want them to maintain the proper angle to the pavement so the cont patch of rubber is as large as possible. That's what proper wh alignment does.

Simply changing the alignment settings can make a dramatic impro ment in grip. What to change, and what the change will produce, requi a brief explanation of some terms with which you may well be familia so, skip down a couple of paragraphs.

A car's basic handling characteristics, when pushed hard, fall into o of three types: understeer, oversteer or neutral.

Understeer is the condition when the front end has less grip than rear. If pushed beyond its limits of adhesion, the car's front end will sl before the rear tires lose grip. In oval track racing, it's known as 'pu

Oversteer is the condition when the rear end has less grip than front. Pushed to the limit, a car with oversteer will have its rear tires bre traction in cornering while the front stays stuck.

Neutral, of course, is when the whole car slides at the limit. If achieve this, have the car bronzed; it doesn't occur often in the real wo Ideally, you want a little understeer, because it is both more predicta (you can feel it coming) and because, when all else fails, you're usu better of leaving the pavement front end first. You have more time to cl your eyes and duck!

Remember, finally, that we are talking about handling characteristics **the limit.** Handling below the limit is more a function of driving technic than suspension geometry or spring rate.

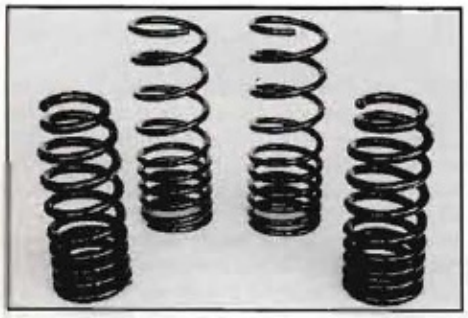
## Front Springs

We offer three types. "Race" springs are stiff enough for road racing or Autocross and can be used on the street, although ride will be highly affected. Ride height is lowered approximately one inch. "Rally" springs are designed purely for rally competition. They are softer (lower spring rate) than Race springs and raise ground clearance by approximately one inch. "Progressive Rate" springs get progressively stiffer as they are compressed and are ideal for street performance. Ride is not too adversely affected by minor bumps and potholes, but spirited driving causes them to provide stiffer response

| Application | Part No. (2 required) |
|---|---|
| **Race Springs, Front** | |
| Corolla, '80–81 | 48131-002TE |
| Corolla, '82–83 | 48131-001TE |
| Corolla, '84–87 | 48131-AE801 |
| Corolla, '88–89 | 48131-ST601 |
| FX16, '86–88 | 48131-ST601 |
| Celica, '71–77 | 48131-TA002 |
| Celica, '78–81 | 48131-RA401 |
| Celica, '82–85 | 48131-001RA |
| Celica, '86–89 | 48131-ST601 |
| Supra, '79–81 | 48131-RA401 |
| Supra, '82–85 | 48131-061MA |
| Supra, '86½–89 | 48131-MA701 |
| MR2, '85–88 | 48131-AW101 29.95 |
| **Rally Springs, Front** | |
| Corolla, '75–78 | 48131-TE353 |
| Corolla, '80–81 | 48131-TE051 |
| AllTrac, '88–89 | 48131-STA51-40 |

Not legal for use in California on pollution-controlled motor vehicles.

| Application | Part No. (2 required) |
|---|---|
| **Race Springs, Rear** | |
| Corolla, '80–87 | 48231-AE801-43 (road race) |
| Corolla, '80–87 | 48231-AE801-39 (autocross) |
| Corolla, '88–89 | 48231-ST601 |
| FX16, '86–88 | 48231-ST601 |
| Celica, '71–77 | 48231-TA002 |
| Celica, '78–81 | 48231-RA401 |
| Celica, '82–85 | 48231-061MA |
| Celica, '86–89 | 48231-ST601 |
| Supra, '79–81 | 48231-RA401 |
| Supra, '82–85 | 48231-061MA |
| Supra, '86½–89 | 48231-MA701 |
| MR2, '85–89 | 48231-AW101 42.95 |
| AllTrac, '88–89 | 48231-STA51-36 |
| **Rally Springs, Rear** | |
| Corolla, '80–81 | 48231-TE051 |
| Celica, '82–85 | 48231-001RA |
| **Progressive Rate Front & Rear Matched Spring Sets** | |
| Corolla, FX16 '86–87 | 48100-AE820 |
| Corolla, RWD, '85–87 | 48100-AE860 |
| Corolla, FWD, '88–90 | 48100-AE920 |
| MR2, '85–90 | 48100-AW100 269.95 |
| Lexus, LS400i, '89–90 | 48100-LS400 |
| Supra, '82–85 | 48100-MA600 |
| Supra, '86½–89 | 48100-MA700 |
| Cressida, '85–88 | 48100-MX700 |
| Cressida, '89–90 | 48100-MX800 |
| Celica, '82–85 (Solid Axle) | 48100-RA600 |
| Celica, '82–85 (I.R.S.) | 48100-RA650 |
| Celica, '86–89 | 48100-ST160 |
| Celica, '90–91 (N/A) | 48100-ST180 |
| Camry, '87–90 | 48100-SV200 |
| MR2, '91 | 48100-SW200 |



## Negative Roll Blocks, Corolla

When fitting springs which lower the front end on '75–87 Corollas, front end geometry is altered adversely. To correct it, TRD developed these blocks which are fitted to the lower control arm/strut junction. Reduces tendency to exhibit 'bump steer' and increases high-speed stability. Highly recommended.

**Pt. No. 43200-AE801**


## Supra TEMS By-Pass Control

Locks the dash-adjustable suspension on '86½–90 Supras in the stiffest mode.

**Pt. No. 84160-14060**



**Not legal for use in California on pollution-controlled motor vehicles.**

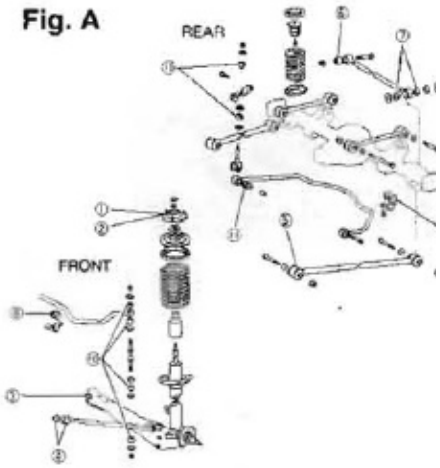
# TOYOTA RACING DEVELOPMENT

## Suspension Bushings

Consult appropriate drawing for part identification. These are high-durometer (stiff) rubber bushings to replace those used on stock suspension components. **Order number of pieces (pcs) indicated in description; part number is for one bushing**

| Application | Bushing Description | Fig. No. | Part I.D. No. | Part No. |
|---|---|---|---|---|
| Corolla, '80–87 | Lower control arm (2 pcs) | A | 3 | 48654-AE851 |
| | Tension rod (4 pcs) | A | 4 | 48674-TA451 |
| | Control arm (8 pcs) | A | 5 | 48702-AE851 |
| | Lateral control rod | A | 6 | 48706-TA451 |
| | Lateral control rod (2 pcs) | A | 7 | 48745-AE851 |
| | Sway bar (2 pcs) | A | 8 | 48815-TE051 |
| | Sway bar (2 pcs) | A | 9 | 40819-AE851 |
| | Sway bar link (8 pcs f.; 4 pcs r.) | A | 10 | 48817-AE851 |
| | Sway bar (2 pcs) | A | 11 | 40818-AE851 |
| Corolla GT-S, '88–90 | Control arm no. 1 (2 pcs) | B | 2 | 48654-AE951 |
| | Control arm no. 2 (2 pcs) | B | 3 | 48655-AE951 |
| | Axle carrier no. 1 (2 pcs) | B | 4 | 48715-AE951 |
| | Axle carrier no. 1 (2 pcs) | B | 5 | 48715-AE951 |
| | Axle carrier no. 3 (2 pcs) | B | 6 | 48715-AE961 |
| | Suspension arm no. 1 (2 pcs) | B | 7 | 48725-AE951 |
| | Suspension arm no. 2 (2 pcs) | B | 8 | 48725-AE961 |
| | Control arm (2 pcs) | B | 9 | 48715-AEA51 |
| | Sway bar link (8 pcs) | B | 10 | 48817-AE851 |
| | Sway bar (2 pcs) | B | 11 | 48815-AE951 |
| | Sway bar (2 pcs) | B | 12 | 48818-AE951-14 |
| FX16, '86–89 | Control arm (2 pcs) | C | 3 | 48654-AEA51 |
| | Control arm (2 pcs) | C | 4 | 48655-AEA51 |
| | Axle carrier no. 1 (2 pcs) | C | 5 | 48715-AE951 |
| | Axle carrier no. 2 (2 pcs) | C | 6 | 48715-AE971 |
| | Tension rod (2 pcs) | C | 7 | 48715-AEA51 |
| | Sway bar link (12 pcs) | C | 8 | 48817-AE851 |
| | Sway bar (2 pcs) | C | 9 | 48815-AEA51 |
| | Sway bar (2 pcs) | C | 10 | 48818-AEA51-16 |
| MR2, '~~86~~ 85–89 | Tension rod (~~4~~ 8 pcs) | D | 3 | 48674-TA451 |
| | Tension rod (2 pcs) | D | 4 | 48715-AW151 |
| | Suspension arm (4 pcs) | D | 5 | 48654-AW151 |
| Celica, '78–80 | Control arm (8 pcs) | | | 48702-TA451 |
| | Sway bar (2 pcs) | | | 48815-TA451 |
| Celica, '86–89 | Lower arm (2 pcs) | | | 48655-ST651 |
| | Lower arm (2 pcs) | | | 48654-AW151 |
| AllTrac, '88–89 | Rear control arm (2 pcs) | | | 48725-STA51 |
| | Rear suspension arm no. 2 (2 pcs) | | | 48725-STA61 |
| | Lower arm (2 pcs) | | | 48655-ST651 |
| | Tension rod (4 pcs) | | | 48674-TA451 |
| | Lower arm (2 pcs) | | | 48654-AW151 |
| | Sway bar (2 pcs) | | | 48815-ST651-26 |
| | Rear sway bar (2 pcs) | | | 48818-ST651-16 |

Fig. A




14
12

Fig. B

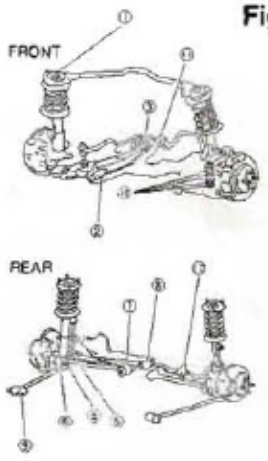



Fig. D

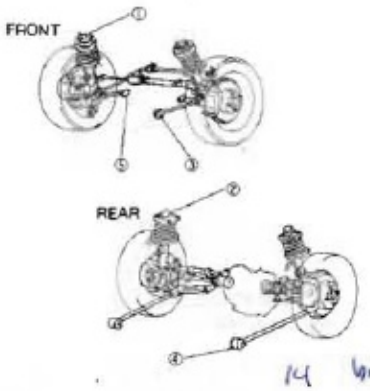
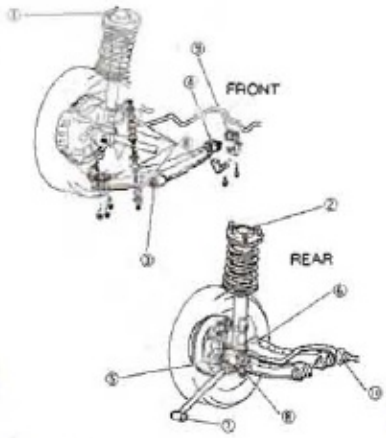



Fig. C

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14 bushings 160.00
2 steering 30.00
4 @ struts ~~50.00~~ 46.95 F
49.95 R

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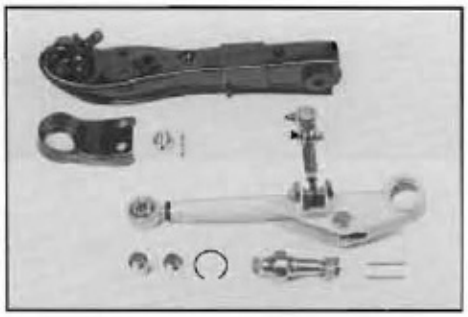
## Anti-Sway Bars

Reduces body roll during cornerning without affecting ride quality. Adding (or increasing the size/stiffness of) a rear bar reduces understeer (front-end washing out in cornering). Adding (or increasing size/stiffness) of a front bar reduces oversteer (rear end comes around during cornering). Adding or stiffening front bar can eliminate trailing-throttle oversteer, the condition when rear-end steps out (slides) if you abruptly lift-off gas pedal or hit brakes in a corner. See suspension section introduction (page 33).

| Application | Front Dia. | Rear Dia. | Notes | Part No. |
|---|---|---|---|---|
| Corolla GTS, '85 | 1" | ¾" | Live axle/no IRS | |
| Celica, '76–81 | 1" | ¾" | | 240-SB5065 |
| '82–85 | 1" | ¾" | Live axle/no IRS | 240-SB5066 |
| '82–85 GTS | 1" | ¾" | IRS only | 240-SB5061 |
| '86–88 | 1" | ⅝" | Not for AllTrac | 240-SB5068 |
| '86–89 | | | Front wheel drive | 127-BX-073C |
| Supra, '82–85 | 1⅛" | ¾" | | 240-SB5060 |
| '86–90 | 1⅛" | 15/16" | | 240-SB5059 |
| Cressida, '85–86 | 1" | ¾" | | 240-SB5067 |
| MR2, '85–89, Super, non-super | | | Adjustable, see mounting kit | 240-SB5064 |
| MR2, Superchd. | | | Adjustable | 127-B-07881-FA |
| Truck, 2WD, '84–87 | | | Mtg. kit below | 127-BX-E69 |

**Mounting Kits for Sway Bars**

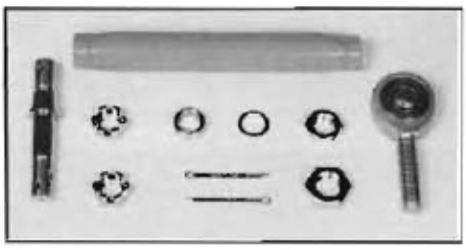
| | | |
|---|---|---|
| MR2, '86–87 | Rear bar mounting kit, hardware, required | 240-AK5064 |
| Truck, 2WD, '84–88 | Mounting kit | 127-KA-E6906-R |



## Lower Control Arm for Autocross, Racing

Lower a car (or raising one for rallying) changes the angle of the lower control arms and alters camber. To restore proper alignment geometry, TRD offers special lower control arms which push the lower ball-joint outward. These were developed for international rally and Group A competition, but have been popular in Autocross.

| Application | Description | Part No. |
|---|---|---|
| Corolla, '85–87 | Right side, std, length, tubular fabricated control arm | 48068-AE801 |
| | Same as above, left side | 48069-AE801 |
| Corolla GTS, '85–87 | Stamped steel control arm, right side, +10mm | 48068-AE851-10 |
| | Same as above, left side, +10mm | 48069-AE851-10 |
| | Same as above, right side, +15mm | 48068-AE851-15 |
| | Same as above, left side, +15mm | 48069-AE851-15 |
| Corolla, '75–79 | Same as above, right side, +20mm | 48068-TE351-A |
| | Same as above, left side, +20mm | 48069-TE351-A |
| Corolla, '80–83 | Stamped steel control arm, right side, +20mm | 48068-TE751-A |
| | Same as above, left side, +20mm | 48069-TE751-A |



## Tie Rod for Long Control Arms

When using TRD lengthened Lower Control Arms, you will need longer steering tie rods. Two are required, together with one each of the rod-end nuts listed. These will fit Corolla and Celica.

| Description | Part No. |
|---|---|
| Lengthened tie rod | 45461-TE351 |
| Rod end nut, right side | 94300-SP009 |
| Rod end nut, left side | 94300-SP010 |

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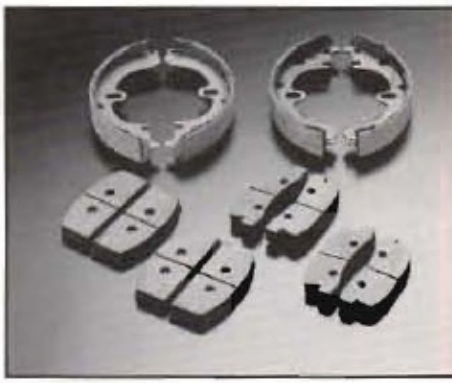
# 9 Brake Components

## Brake Pads and Shoes



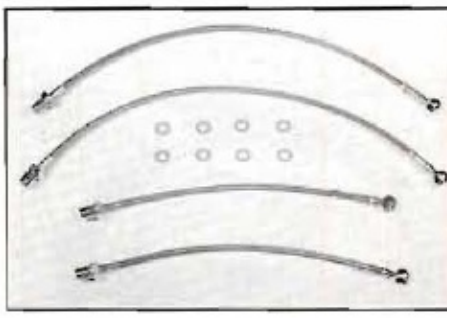
TRD provides disc brake pads in two compositions: semi-metallic/asbestos for racing and bronze metallic for street, light road racing and autocross. The racing pads are strictly for racing; they must be heated to reach their normal operating temperatures and could be dangerous on the street. Race pads do not fade under repeated maximum-force braking. Bronze metallic pads will shorten brake distances considerably over stock pads, but wear at a higher rate.

We also offer rear brake shoes for racing Corolla, which are a good match for the 04491-TA001 front disc pads.

| Application | Street Front | Street Rear | Racing Front | Racing Rear |
|---|---|---|---|---|
| Corolla, '71–87 | | | | 04495-TA001 (brake shoes) |
| '75–79 | 04491-D305M | | 04491-TA001 | |
| '80–83 | 04491-D176M | | 04491-TE001 | 04495-TE001 (brake shoes) |
| '84–87 | 04491-D375M | 04492-D557M | 04491-AE801 | 04492-AE801 |
| '88–90 | | | 04491-AEA01 | 04492-AEA01 |
| FX16, '87–88 | 04491-D507M | | 04491-AEA01 | 04492-AEA01 |
| Celica, '71–75 | 04491-D159M | | | |
| '76–80* | 04491-D246M | | | |
| '76–80* | 04491-D247M | | | |
| '79–81 | | 04492-D344M | | |
| '81 | 04491-D338M | | | |
| '82 | 04491-D349M | | | |
| '83–85 | 04491-D537M | | 04491-RA601 | |
| '86–89rwd | 04491-D579M | 04492-D558M (GTS only) | 04491-AEA01 | |
| '86–89fwd | 04491-D507M | | | |
| *P/N 04491-D246M, cars with brake sensor; -D247M, cars without sensor. | | | | |
| Supra, '76–79 | 04491-D246M | | | |
| '79–81 | 04491-D247M | 04492-D344M | | |
| '82 | 04491-D349M | 04492-D504M | | |
| '83–85 | 04491-D537M | 04492-D571M | 04491-MZ001 | 04492-MZ001 |
| '86½–90 | 04491-D579M | 04492-D556M | | |
| MR2, '85–89 | 04491-D507M | 04492-D551M | 04491-AEA01 | 04492-AW101 |
| AllTrac, '88–89 Mfg. before 7/87 | | | 04491-STA02 04491-STA01 | 04492-AEA01 |

58.95 87.95 241.95 214.95

## TRD Braided Steel Brake Hose Kits



TRD brake lines feature a telfon inner hose and a braided stainless steel hose outer wrap. These lines give much faster brake response and are ideal for racing or street use. Hose will withstand pressures to 12,000 psi and are tested at 4,000 psi. Other applications available; contact TRD for information. Other applications available in late 1990. Call or write then for information.

| Application | Part No. |
|---|---|
| MR2, '85–88 | 04490-AW151 |

74.95

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# 10 Race, Engine Manuals

## RACE Preparation Manuals

Prepared by TRD Japan for building the 4AG engine to Group A rally and racing specifications. Detailed, step-by-step prep manual with tolerances and specifications—pages, softcover.

| Application | Part No. |
|---|---|
| Corolla GTS, '85–87 | 00400-AE86 |
| Corolla GTS, '88–90 | 00400-AE92 |

## Factory Engine Manuals

Often hard to find, these are original Toyota factory engine manuals, with rebuilding how-to and much other useful information.

| Application | Part No. |
|---|---|
| 21R/22R | 00400-36056E |
| 20R | 00400-98116E |
| 18R/18RG | 00400-98196E |
| 2TG/2TC/3TC | 00400-98311E |

# 11 Interior Accessories

## Bolt-In Roll Bars

We have SCCA-approved, bolt-in roll bars for Celica and Corolla, featuring 2" dia. steel tubing with .120" wall thickness. These are rugged designs with cross brace and seat-back brace and have 4-point bolt-in. Also available, are street-use roll bars, with 1¾" tubes of .120" wall. Street roll bars do not have the cross brace. On street bars, use Grade 8 nuts and bolts to secure, and we recommend having a steel reinforcing plate welded to the bottom of the chassis for through-bolting of the roll bar.

| Part No. | Application |
|---|---|
| 51100-6024 | Celica, '78–81, race |
| 51100-6052 | Celica, '74, race |
| 51100-6046 | Corolla, '84–85, race |
| 51100-6078 | Corolla, '75–82, race |
| 51100-6124 | Celica, '78–81, street |
| 51100-6146 | Corolla, '84-85, street |
| 51100-6150 | MR2, '85–88, street |

209.95

## Autopower SCCA/IMSA Rollcages

Approved by both IMSA and the SCCA for racing, these perimeter rollcages have 1¾" tubing with .120" wall thickness. They have cross braces, seatback braces and door braces. These are 6-point bolt-ins engineered for fit and protection.

| Part No. | Application |
|---|---|
| 51100-8347 | Celica, '86 |
| 51100-8350 | MR2, '85–88 499.95 |

## Autopower U-Weld Roll Cage Kit

A kit made to individual car dimensions. You must supply us with car model and year, including body style. These are made for us by Autopower, a respected name in the business. You have to weld the kit together (instructions are good) and modifications to car interior will probably be required. Welds to chassis; not a bolt-in.

| Application | Pt. No. |
|---|---|
| U-Weld Cage Kit (specify year, model, body style) | 51100-UWELD |



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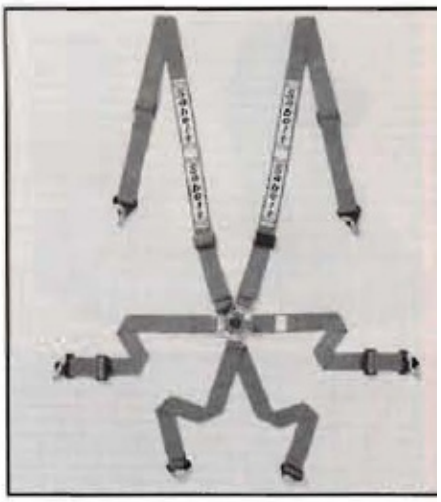
# TOYOTA RACING DEVELOPMENT

## Sabelt FIA Racing Harness



Full competition 4-point safety harness by Sabelt. FIA/FISA approved. Requires anti-submarine belt, listed separately.

| Application | Pt. No. |
|---|---|
| 4-Point Harness | 00001-SP033 |
| Anti-Submarine Belt | 00001-SP034 |

Products

## Simpson Racing Harnesses, Seat Belts

Premium quality racing harnesses legal for all forms of U.S. racing.

| Description | Pt. No. |
|---|---|
| Floor Mount Seat Belt. 52" adjusts down to 25". Hardware included. 3" belts. Pull-down adjustment. | 123-29020 R (red)<br>123-29020 B (blue)<br>123-29020 X (black) |
| 5-Way Cam-Lock Harness. 52" adjusts down to 25". 3" belts. Bolt-in mount. Pull-down adjust. | 123-29110 R (red)<br>123-29110 B (blue)<br>123-29110 X (black) |
| 6-Way Cam-Lock Harness. Same as above except no lap belt adjusters; install at correct belt length. | 123-29114 R (red)<br>123-29114 B (blue)<br>123-29114 X (black) |
| Shoulder Harness. Latch type. Pair of belts attaches to any latch-type harness. Adjust to 48" length. Mount bolt-in or wrap-around style. | 123-30002 R (red)<br>123-30002 B (blue)<br>123-30002 X (black) |
| Bolt-In Anti-Submarine Belt. 27" long. Semi-adjustable. Bolt-in mounting. | 123-31012 R (red)<br>123-31012 B (blue)<br>123-31012 X (black) |
| Eye-Bolt Belt Mount. 7/16" NF thread fits stock seat belt mount holes (1½" shank). Includes large washer, nut. | 123-31018 |

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|---|---|---|
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| Filler 3" | 94 | 132 |

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Nu 72 Ave right
1st Corner on left
M-F 10-6 S 10-2

## Halon Fire Extinguishers

For all automotive fire situations, including fuel and electrical.

| Description | Pt. No. |
|---|---|
| Extinguisher, 1 lb. 7 oz. | 18-10001 |
| Extinguisher, 2 lb. 4 oz. | 18-344 |
| Mtg. bracket for 18-10001 | 18-401 |
| Mtg. bracket for 18-344 | 18-817B |

## TRD Leather Steering Wheel

An attractive and functional addition to any Toyota interior, TRD's 14-inch diameter black leather steering wheel features a hand-filling grip that is both relaxing to hold for extended driving and aids control.

| Description | Pt. No. |
|---|---|
| Leather Steering Wheel Adapters: | 45111-SP151 |
| Corolla, '79–82 & '85–87; FX16, '86–88; MR2, '85–89 | 45112-AE801 |
| Corolla, '88–89; Celica, '86–89; AllTrac, '88–89; Supra, '86–89 | 45112-ST601 |
| Corolla, '72–74 | 45112-TE304 |

**Not legal for use in California on pollution-controlled motor vehicles.**

## TRD Driving/Race Seats

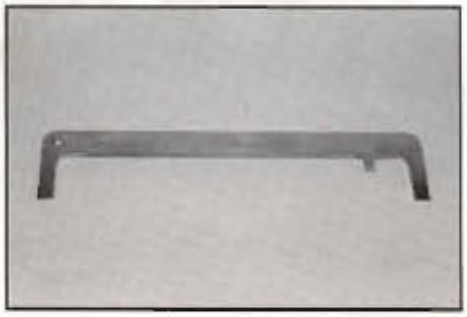
TRD makes two styles, one with integral headrest and holes for a four-point restraint system, the other a lower backrest model with holes for a shoulder harness. The high-back seat (71100-SP001-01 and -02) comes in black-and-grey, with or without a rainbow center stripe in yellow-orange-red, and has large shoulder bolsters for lateral support of the upper body. The deep bucket has wear-resisting inserts on the lower side bolsters. The low-back seat is available in yellow or black. All covers are cloth over a firm-but-comfortable padding on fiberglass buckets. Bolts to stock seat mounting.

| Model | Pt. No. |
|---|---|
| High-back seat, black, no stripe | 71100-SP001-01 |
| High-back seat, black, with stripe | 71100-SP001-02 |
| Low-back seat, yellow | 71100-TA001 |
| Low-back seat, black | 71100-TA001-A |

# 12 Tools

## Carburetor Float Level Gauge

Set floats to optimum level faster and easier with this handy tool. For all carburetors (sidedraft and downdraft) through 48mm. **Pt. No. 09240-27010**

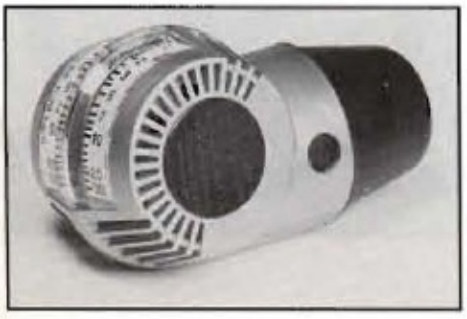


## 2TG/18RG Camshaft Timing Tool

A stamped steel tool that indexes on the camshafts to assure proper relationship (or a 0-degree base from which to advance or retard camshaft timing.) **Pt. No. 09248-27010**

## Cam Degree Wheel

Stamped steel for durability. A necessary tool for advancing or retarding camshafts.
**Pt. No. 113-70W**



## Carburetor Synchrometer

For synchronizing carburetors in multiple-carb set-ups. Synchronization of carbs is essential to maximum performance and fuel efficiency. **Pt. No. 120-STE-SK**

## Turbo Boost Controls


Allows the engine to reach maximum boost levels, as limited by the stock computer. Supra cars will run to a max of about 7 lbs. and AllTrac will hit around 6 lbs., significantly higher than standard. These controls defeat the stock activation of the wastegate. Two types are offered: VBC for variable boost control and EVC for electronic valve (wastegate) control. The EVC is superior in performance, easier to adjust and easier to install. Requires HKS exhaust system (page 16).

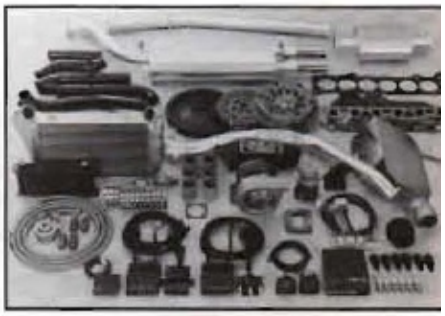
| Part No. | Description |
|---|---|
| 3040XX-11026L | VBC for Supra Turbo, all |
| 3040XX-11228M | VBC for AllTrac, '88–89 |
| 3040XX-12721J | VBC for 4Runner Turbo, all |
| 3050XX-90000X | EVC for Supra Turbo, all |
| 3050XX-12721J | EVC for AllTrac, '88–89 |
| 3052XX-90000X | EVC for Supra w/Stage V Turbo Kit only |

## Fuel Management System


Bypasses fuel cut defenser to maintain air/fuel ratio at boost levels up to 15psi. Engine will run more rich, so engine power will be increased only slightly unless exhaust system is upgraded (page 16). Should also use a Boost Control (above). This is a basic turbo modification and will increase the power gained from any other engine performance modification. Wiring harness plugs into stock fuel computer and fuel cut defenser. Easily installed; clear instructions. Addition of an intercooler will not only increase performance gain, but will increase engine reliability.

| Part No. | Application |
|---|---|
| 4012XX-11026L | Supra Turbo, '87–88 |
| 4012XX-11026N | Supra Turbo, '89 |
| 4012XX-11228M | AllTrac, '88–89 |
| 4012XX-12721J | 4Runner Turbo, all |

## Turbo System Kits



These are kits designed to make a major increase in power from factory Toyota turbocharger system on Turbo Supras, or to add a turbo system to non-turbo Supras or to MR2s. For non-turbo cars, the systems include the turbo, exhaust manifold, intercooler, exhaust system, oil cooler, clutch, boost control (variable), fuel computer, larger fuel injectors, P-ROM and all installation hardware and detailed, easy-to-follow instruction manual. These are kits engineered by HKS, and our customers have been highly satisfied both with installation ease and power output.

| Part No. | Application/Description |
|---|---|
| 6016XX-11025L | Supra (non-turbo), '86½–89. Produces approximately 360 hp. As described above. |
| 6017XX-11323J | MR2 (non-supercharged), '85–86. Produces approximately 185 hp. As described above. |
| 6047XX-11026L | Supra Turbo, through '89. Includes larger Garrett T04E turbo with water-cooled center housing, exhaust manifold, external wastegate, larger fuel injectors, 3" head pipe, different P-ROM and all installation hardware, detailed instructions. Not recommended for automatic transmissions (too much power). Produces approximately 415 hp! Test times: 0–60 mph in 5.41 sec., ¼-mile at 12.82 and 112.8 mph. Requires 23807-42010 fuel rail (below) and 3052XX-90000X EVC Boost Control (above). |

## Intercooler Kits

As a turbocharger compresses air into a smaller volume, the act of compression heats the air. And the cooler the air, the more power the engine makes. An intercooler is, in effect, a radiator for the air, placed between the turbocharger exit and the engine's fuel injection/plenum/intake manifold. These are air-to-air heat exchangers, using fresh airflow over the intercooler to cool the charge air flowing through the intercooler. Intercoolers make a significant increase in power available from a turbo'd engine, in some cases as much as a 15% gain. These intercoolers come complete with all the parts needed for installation and instructions are included. California street-legal.

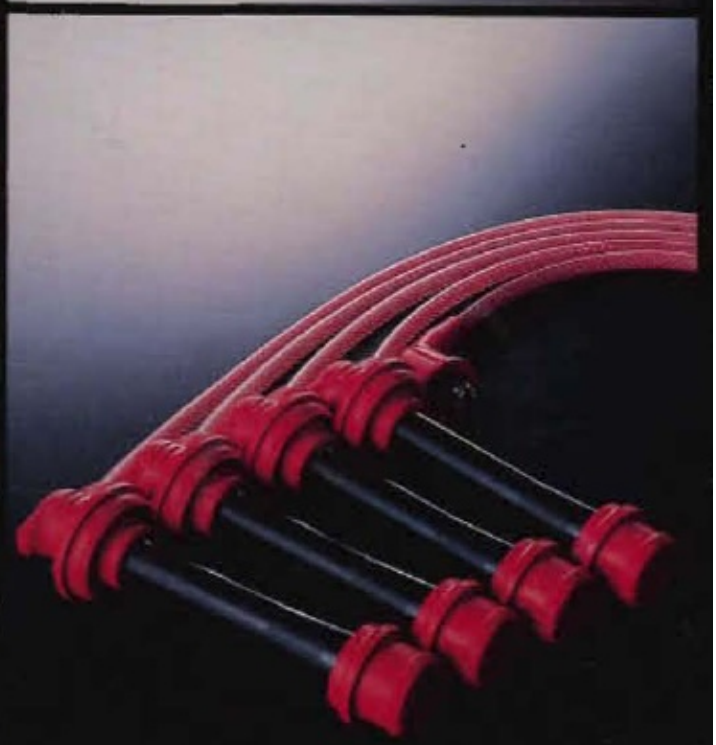
| Part No. | Application |
|---|---|
| 5010EC-11026L | Supra Turbo, '87–89 |
| 5010XX-12221J | Truck Turbo, 2WD, all |
| 5010XX-12721J | Truck Turbo, 4WD, all |
| 5010XX-12821J | 4Runner Turbo, all |

## Supra Turbo System Fuel Rail

Required when installing Supra turbo system 6047XX-11026L, listed above.

**Pt. No. 23807-42010**

**Not legal for use in California on pollution-controlled motor vehicles.**

TOYOTA
TRD
RACING DEVELOPMENT

TRD U.S.A., Inc.
18240 S. Western Ave.
Gardena, CA 90248
213-532-1232

# TOYOTA RACING DEVELOPMENT PRICE SHEET

| ITEM | DESCRIPTION | RETAIL |
|---|---|---|
| 00400-3SGTE | ENGINE MANUAL,3SGTE RACE/GROUP A | $42.95 |
| 00400-98116E | SERVICE MANUAL,20R ONLY | $17.95 |
| 00400-98196E | SERVICE MANUAL,18R/18RG | $20.95 |
| 00400-98311E | SERVICE MANUAL,2TG/2TC/3TC | $21.95 |
| 00400-AE86 | MANUAL,COROLLA AE86 RACE/GROUP A | $42.95 |
| 04111-27036 | GASKET KIT,2TG OVERHAUL | $171.95 |
| 04111-34075 | GASKET KIT,18RG OVERHAUL | $200.95 |
| 04112-27034 | GASKET KIT,2TG TOP OVERHAUL | $101.95 |
| 04112-34037 | GASKET KIT,18RG TOP OVERHAUL | $100.95 |
| 04490-AW110 | STEEL BRAKE LINE KIT,MR2 85-89 | $74.95 |
| 04490-MA700 | STEEL BRAKE LINE KIT,SUPRA 86-91 | $74.95 |
| 04490-RN001 | STEEL BRAKE LINE KIT,TRUCK 4WD 88 | $70.95 |
| 04490-RN002 | STEEL BRAKE LINE KIT,TRUCK 2WD 88 | $70.95 |
| 04491-AE801 | BRAKE PAD SET,COROLLA 85-87 DS11 | $148.95 |
| 04491-AE871 | BRAKE PAD SET,COROLLA 85-87 METAL | $210.95 |
| 04491-AE971 | BRAKE PAD SET,COROLLA 89-91 METAL | $210.95 |
| 04491-AEA01 | BRAKE PAD SET,FX16/MR2 85-90 FERODO | $241.95 |
| 04491-AEA51 | BRAKE PAD SET,AE82/92,AW11,ST162 | $85.95 |
| 04491-D176M | BRAKE PAD SET,COROLLA 80-83 METAL | $45.95 |
| 04491-D247M | BRAKE PAD SET,CELICA 76-81 METAL | $60.95 |
| 04491-D375M | BRAKE PAD SET,COROLLA 84-87 METAL | $79.95 |
| 04491-D507M | BRAKE PAD SET,MR2,AE82,AE92,ST162 | $58.95 |
| 04491-D537M | BRAKE PAD SET,CELICA/SUPRA 83-85 ME | $83.95 |
| 04491-D579M | BRAKE PAD SET,SUPRA 86-91 METAL | $81.95 |
| 04491-STA02 | BRAKE PAD SET,ALLTRAC 8/87-89 DS11 | $222.31 |
| 04491-SW201 | BRAKE PAD SET, MR-2 91+ (DS-11) | $211.95 |
| 04492-AE801 | BRAKE PAD SET,COROLLA 85-87 DS11 | $167.95 |
| 04492-AE851 | BRAKE PAD SET,COROLLA 80-87 FERODO | $79.95 |
| 04492-AE871 | BRAKE PAD SET,COROLLA 85-87 METAL | $210.95 |
| 04492-AE971 | BRAKE PAD SET,COROLLA 89-91 METAL | $210.95 |
| 04492-AEA01 | BRAKE PAD SET,FX16/MR2 85-90 DS11 | $214.95 |
| 04492-AW101 | BRAKE PAD SET,MR2 85-89 DS11 | $214.95 |
| 04492-D504M | BRAKE PAD SET,CELICA/SUPRA 82-85 | $67.95 |
| 04492-D551M | BRAKE PAD SET,MR2 85-90 METAL | $87.95 |
| 04492-D556M | BRAKE PAD SET,SUPRA 86-91 METAL | $61.95 |
| 04492-D557M | BRAKE PAD SET,COROLLA 85-87 METAL | $63.95 |
| 04492-EL301 | BRAKE PAD SET,TERCEL 89-90 DS11 | $193.95 |
| 04492-STB01 | BRAKE PAD SET,CELICA 90-91 DS11 | $214.95 |
| 04495-AE901 | BRAKE SHOE SET,COROLLA 88-91 FERODO | $83.95 |
| 04495-TA001 | BRAKE SHOE SET,COROLLA 75-87 FERODO | $85.95 |
| 08150-16010 | AERODYNAMIC PACKAGE, PASEO | $1,239.95 |
| 08154-16010 | FRONT AIR DAM, PASEO | $413.95 |
| 08155-16010 | SIDE SKIRT SET, PASEO | $688.95 |
| 08157-16010 | REAR SKIRT, PASEO | $275.95 |
| 08220-TRD01 | TRD BANNER 29 3/4 X 60 | $22.95 |
| 08230-TRD01 | TRD STICKER (SMALL) 1-1/2X3" | $0.95 |
| 08230-TRD02 | TRD STICKER (MEDIUM) 4X81/4 | $2.95 |
| 08230-TRD03 | TRD STICKER (LARGE) 6X12 | $2.95 |
| 08230-TRDD1 | TRD DIECUT STICKER 2 COLOR (SMALL) | $2.95 |
| 08230-TRDD2 | TRD DIECUT STICKER 2 COLOR (LARGE) | $3.95 |
| 08231-SP014 | TRD DOOR LETTERING SET | $28.95 |
| 08231-SP032-D1 | TRD CLEAR STICKER (SMALL) | $2.95 |

| ITEM | DESCRIPTION | RETAIL |
|---|---|---|
| 08231-SP032-D2 | TRD CLEAR STICKER (LARGE) | $3.95 |
| 08231-SP033 | TRD WINDSHEILD VISOR STICKER | $39.95 |
| 08232-SP012 | TRD PATCH | $7.95 |
| 08235-SP012 | TRD PLATE KEY RING 88 (GOLD) | $19.95 |
| 08235-SP013 | TRD PLATE KEY RING 88 (SILVER) | $19.95 |
| 08294-TRD0L | TRD T-SHIRT (WHITE) LARGE | $12.95 |
| 08294-TRD0M | TRD T-SHIRT (WHITE) MEDIUM | $12.95 |
| 08294-TRD0S | TRD T-SHIRT (WHITE) SMALL | $12.95 |
| 08294-TRD0X | TRD T-SHIRT (WHITE) X-LARGE | $12.95 |
| 08294-TRD1L | TRD TANK TOP (WHITE) LARGE | $12.95 |
| 08294-TRD1M | TRD TANK TOP (WHITE) MEDIUM | $12.95 |
| 08294-TRD1S | TRD TANK TOP (WHITE) SMALL | $12.95 |
| 08294-TRD1X | TRD TANK TOP (WHITE) X-LARGE | $12.95 |
| 08294-TRD2L | TRD SWEATSHIRT (WHITE) LARGE | $33.95 |
| 08294-TRD2M | TRD SWEATSHIRT (WHITE) MEDIUM | $33.95 |
| 08294-TRD2S | TRD SWEATSHIRT (WHITE) SMALL | $33.95 |
| 08294-TRD2X | TRD SWEATSHIRT (WHITE) X-LARGE | $33.95 |
| 08294-TRD3L | TRD POLO SHIRT (WHITE) LARGE | $44.95 |
| 08294-TRD3M | TRD POLO SHIRT (WHITE) MEDIUM | $44.95 |
| 08294-TRD3S | TRD POLO SHIRT (WHITE) SMALL | $44.95 |
| 08294-TRD3X | TRD POLO SHIRT (WHITE) X-LARGE | $44.95 |
| 08294-TRD3XX | TRD POLO SHIRT (WHITE) XX-LARGE | $44.95 |
| 08295-TRDBL | TRD SUPLEX JACKET (BLACK) LARGE | $159.95 |
| 08295-TRDBM | TRD SUPLEX JACKET (BLACK) MEDIUM | $159.95 |
| 08295-TRDBS | TRD SUPLEX JACKET BLACK (SMALL) | $159.95 |
| 08295-TRDBX | TRD SUPLEX JACKET BLACK (X-LARGE) | $159.95 |
| 08295-TRDBXX | TRD SUPLEX JACKET (BLACK) XX-LARGE | $159.95 |
| 08295-TRDRL | TRD SUPLEX JACKET (RED) LARGE | $159.95 |
| 08295-TRDRM | TRD SUPLEX JACKET RED (MEDIUM) | $159.95 |
| 08295-TRDRS | TRD SUPLEX JACKET RED (MEDIUM) | $159.95 |
| 08295-TRDRX | TRD SUPLEX JACKET (RED) X-LARGE | $159.95 |
| 08295-TRDRXX | TRD SUPLEX JACKET (RED) XX-LARGE | $159.95 |
| 08298-TRD01 | TRD BASEBALL CAP (BLACK WOOL) | $23.95 |
| 08298-TRD02 | TRD BASEBALL CAP (BLACK NYLON) | $16.95 |
| 09240-27010 | FLOAT LEVEL GUAGE | $12.95 |
| 10901-SP031-31 | SPARK PLUG,Q31 (RACE) | $21.95 |
| 11115-03ST6 | CYLINDER HEAD GASKET,3SG 0.6mm | $105.95 |
| 11115-88221 | CYLINDER HEAD GASKET,2TG | $17.95 |
| 11115-AE801 | CYLINDER HEAD GASKET,4AG | $55.95 |
| 11115-AE811 | CYLINDER HEAD GASKET,4AG METAL TAC | $21.95 |
| 11115-AE851 | CYLINDER HEAD GASKET,4AG | $35.95 |
| 11115-EP701 | CYLINDER HEAD GASKET,2E/3E 0.6mm | $32.95 |
| 11115-EP751 | CYLINDER HEAD GASKET,2E/3E 1.0mm | $19.95 |
| 11115-RA001 | CYLINDER HEAD GASKET,18RG | $17.95 |
| 11115-ST651 | CYLINDER HEAD GASKET,3SG 1.2mm META | $42.95 |
| 11115-TA001 | CYLINDER HEAD GASKET,2TG O/S | $21.95 |
| 11115-TE051 | CYLINDER HEAD GASKET,2TC/3TC O/S | $33.95 |
| 11121-AE801 | INTAKE VALVE GUIDE,4AG | $15.95 |
| 11122-88250 | VALVE GUIDE,2TG/18RG | $9.95 |
| 11125-AE801 | EXHAUST VALVE GUIDE,4AG | $18.95 |
| 11131-AE851 | INTAKE VALVE SEAT,4AG (!) | $4.25 |
| 11131-TE001 | INTAKE VALVE SEAT,2TC/3TC | $19.95 |

| ITEM | DESCRIPTION | RETAIL |
|---|---|---|
| 11135-AE851 | EXHAUST VALVE SEAT,4AG | $3.49 |
| 11135-TE001 | EXHAUST VALVE SEAT,2TC/3TC | $19.95 |
| 11183-88210 | SEMI-CIRCULAR PLUG,2TG | $5.19 |
| 11183-88260 | SEMI-CIRCULAR PLUG,18RG | $4.79 |
| 11213-88260 | VALVE COVER GASKET,2TG | $13.95 |
| 11213-88270 | VALVE COVER GASKET,18RG | $15.95 |
| 11214-88260 | SPARK TOWER GASKET,2TG | $3.89 |
| 11214-88270 | SPARK TOWER GASKET,18RG | $4.19 |
| 11495-SP001 | FUEL PUMP BLOCK OFF PLATE,ALL | $7.29 |
| 116-03-0104-01 | CAMSHAFT,20/22R 280/280 10.67mm | $183.95 |
| 116-N40PHH-97 | CARBURETOR,MIKUNI 40PHH | $242.95 |
| 116-N40PHH-98 | CARBURETOR,MIKUNI 40PHH | $242.95 |
| 116-N44PHH-41 | CARBURETOR,MIKUNI 44PHH | $262.95 |
| 116-N44PHH-42 | CARBURETOR,MIKUNI 44PHH | $262.95 |
| 116-N50PHH-27 | CARBURETOR,MIKUNI 50PHH | $405.95 |
| 116-N50PHH-28 | CARBURETOR,MIKUNI 50PHH | $405.95 |
| 116-Z40-510 | CARBURETOR KIT 40PHH,COROLLA 2T/3T | $590.95 |
| 116-Z40-548 | CARBURETOR KIT 40PHH,TERCEL 3A/4A | $685.95 |
| 116-Z44-510 | CARBURETOR KIT 44PHH,COROLLA 2T/3T | $610.95 |
| 116-Z44-541 | CARBURETOR KIT 44PHH,CELICA 20R | $665.95 |
| 116-Z44-542 | CARBURETOR KIT 44PHH,TRUCK 20R | $645.95 |
| 116-Z44-546 | CARBURETOR KIT 44PHH,CELICA 22R | $725.95 |
| 116-Z44-547 | CARBURETOR KIT 44PHH,TRUCK 22R | $705.95 |
| 116-Z60-1001 | CARBURETOR LINKAGE KIT,ALL | $61.95 |
| 116-Z70-1002 | CARB REBUILD KIT,2TG/18RG | $36.95 |
| 116-Z70-1040 | CARB GASKET KIT,40PHH MIKUNI | $9.95 |
| 116-Z70-1044 | CARB GASKET KIT,44PHH MIKUNI | $12.95 |
| 11701-AE801-01 | CRANKSHAFT BEARING,4AG TAC | $11.25 |
| 11701-AE801-02 | CRANKSHAFT BEARING,4AG TAC | $11.25 |
| 11701-AE801-03 | CRANKSHAFT BEARING,4AG TAC | $11.25 |
| 11701-AE801-04 | CRANKSHAFT BEARING,4AG TAC | $11.25 |
| 120-40105 | FUEL PUMP (!) | $61.95 |
| 120-STE-BK | CARBURETOR SYNCHROMETER,48-50mm (!) | $77.95 |
| 120-STE-SK | CARBURETOR SYNCHROMETER,40-45mm (!) | $77.95 |
| 12121-TE051 | OIL PAN BAFFLE,2TC/3TC/2TG | $23.95 |
| 12361-AE851 | INSULATOR,ENG.MOUNT FRONT COROLLA | $27.95 |
| 12361-AE901 | INSULATOR,ENG.MOUNT FRONT COROLLA | $53.95 |
| 12361-AEA01 | INSULATOR,ENG.MOUNT FRONT FX16 | $51.95 |
| 12361-AW101 | INSULATOR,ENG.MOUNT FRONT MR2 | $62.95 |
| 12361-STA01 | INSULATOR,ENG.MOUNT FRONT ALLTRAC | $36.95 |
| 12361-SW211 | INSULATOR,ENG.MOUNT FRONT MR2 TURBO | $69.95 |
| 12361-TA051 | INSULATOR,ENG.MOUNT FRONT 2T/3T/2TG | $30.95 |
| 12362-AE901 | INSULATOR,ENG.MOUNT RIGHT COROLLA | $68.95 |
| 12362-AEA01 | INSULATOR,ENG.MOUNT RIGHT FX16 | $12.95 |
| 12362-AW101 | INSULATOR,ENG.MOUNT RIGHT MR2 | $80.95 |
| 12362-AW111 | INSULATOR,ENG.MOUNT RIGHT MR2 | $81.95 |
| 12362-STA01 | INSULATOR,ENG.MOUNT RIGHT ALLTRAC | $90.95 |
| 12362-SW211 | INSULATOR,ENG.MOUNT RIGHT MR2 TURBO | $100.95 |
| 12363-AE901 | INSULATOR,ENG.MOUNT CENTER COROLLA | $96.95 |
| 12371-AE901 | INSULATOR,ENG.MOUNT REAR COROLLA | $49.95 |
| 12371-AEA01 | INSULATOR,ENG.MOUNT REAR FX16 | $49.95 |
| 12371-AW101 | INSULATOR,ENG.MOUNT REAR MR2 | $58.95 |

| ITEM | DESCRIPTION | RETAIL |
|---|---|---|
| 12371-AW111 | INSULATOR,ENG.MOUNT REAR MR2-SC | $69.95 |
| 12371-EP701 | INSULATOR,ENG.MOUNT REAR STARLET | $44.95 |
| 12371-STA01 | INSULATOR,ENG.MOUNT REAR ALLTRAC | $80.95 |
| 12371-SW211 | INSULATOR,ENG.MOUNT REAR MR2 TURBO | $51.95 |
| 12372-AE901 | INSULATOR,ENG.MOUNT LEFT COROLLA | $98.95 |
| 12372-AEA01 | INSULATOR,ENG.MOUNT LEFT FX16 | $11.95 |
| 12372-AW101 | INSULATOR,ENG.MOUNT LEFT MR2 | $68.95 |
| 12372-AW111 | INSULATOR,ENG.MOUNT LEFT MR2-SC | $68.95 |
| 12372-EP701 | INSULATOR,ENG.MOUNT LEFT STARLET | $40.95 |
| 12372-STA01 | INSULATOR,ENG.MOUNT LEFT ALLTRAC | $51.95 |
| 12372-SW211 | INSULATOR,ENG.MOUNT LEFT MR2 TURBO | $88.95 |
| 128-502Y | HEADER,CELICA 75-85 (NON SMOG) | $227.95 |
| 128-502Y-O | HEADER,CELICA 83-85 (02) | $245.95 |
| 128-502Y-S | HEADER,CELICA 75-80 (AIR INJ.) | $278.95 |
| 128-502Y-SO | HEADER,CELICA 81-85 (02/AIR INJ.) | $298.95 |
| 128-513Y | HEADER,COROLLA 75-83 2TC/2TG | $227.95 |
| 128-513Y-O | HEADER,CORDLLA 81-83 3TC (02) | $245.95 |
| 128-530Y | HEADER,SUPRA 82-85 | $412.95 |
| 128-542Y | HEADER,TRUCK 75-84 (NON SMOG) | $227.95 |
| 128-542Y-O | HEADER,TRUCK 84.5-87 EFI(02) | $245.95 |
| 128-542Y-S | HEADER,TRUCK 75-84.5 AIR INJ.) | $278.95 |
| 128-542Y-SO | HEADER,TRUCK 75-84.5 (AIR INJ/02) | $298.95 |
| 128-550Y | HEADER,TRUCK 84.5-88 (AIR/02) | $298.95 |
| 128-550Y-SP | HEADER,TRUCK 84.5-88 (NO SMOG) (*) | $298.95 |
| 128-555Y-O | HEADER,TRUCK 88-90 EFI ONLY | $298.95 |
| 128-586 | HEADER,COROLLA GTS 84-87 AE86 | $261.95 |
| 128-590 | HEADER,MR2 85-86 | $312.95 |
| 128-591 | HEADER,MR2 SUPERCHARGED 88-89 | $312.95 |
| 128-9005 | GASKET,FLANGE 2-1/2" (3 BOLT) | $2.59 |
| 128-9530 | EXHAUST MANIFOLD GASKET,5MG | $24.95 |
| 128-9542 | EXHAUST MANIFOLD GASKET,20/22R | $12.95 |
| 13011-3208XC | RING SET,4AG 81.5mm (WISECO) | $26.95 |
| 13012-3228XC | RING SET,4AG 82mm O/S (WISECO) | $39.95 |
| 13012-3504XC | RING SET,2T/3T/2TG 89mm O/S (WISECO | $26.95 |
| 13012-3622XC | RING SET,18RG 92mm O/S (WISECO) | $26.95 |
| 13012-3642XC | RING SET,20/22R 92.5mm O/S (WISECO) | $26.95 |
| 13101-3189XC | PISTON W/RING,4AG 81.0mm (WISECO) | $99.95 |
| 13102-3208XC | PISTON W/RING,4AG 81.5mm O/S WISECO | $99.95 |
| 13102-3229XC | PISTON W/RING,4AG 82mm O/S WISECO | $99.95 |
| 13102-3425XC | PISTON W/RING,3SG 3.425" WISECO | $99.95 |
| 13102-6094XC | PISTON W/RING,2TG 89mm 2.0L O/S | $99.95 |
| 13102-6096XC | PISTON W/RING,18RG 92mm O/S WISECO | $99.95 |
| 13102-6100XC | PISTON W/RING,2TG 89mm 1.750CC (*) | $99.95 |
| 13102-6101XC | PISTON W/RING,20/22R 92.5mm RH O/S | $99.95 |
| 13102-6102XC | PISTON W/RING,20/22R 92.5mm LH O/S | $99.95 |
| 13102-8103XC | PISTON W/RING,4AG 81.3mm O/S WISECO | $99.95 |
| 13201-CA18RG | CONNECTING ROD,18RG (CARRILLO) | $330.95 |
| 13201-CA20R | CONNECTING ROD,20/22R (CARRILLO) | $330.95 |
| 13201-CA2TG | CONNECTING ROD,2T/3T/2TG (CARRILLO) | $330.95 |
| 13201-CA4AG | CONNECTING ROD,4AG SMALL JOURNAL | $330.95 |
| 13265-AE801 | CONNECTING ROD BOLT,4AG | $50.95 |
| 13265-AE802 | RONNECTING ROD BOLT,4AG | $39.95 |

| ITEM | DESCRIPTION | | RETAIL |
|---|---|---|---|
| 13265-TA052 | CONNECTING ROD BOLT,2TC/3TC/2TG | | $20.95 |
| 13266-AE801 | CONNECTING ROD NUT,4AG | | $7.95 |
| 13266-TA052 | CONNECTING ROD NUT,2TC/3TC/2TG | | $1.79 |
| 13281-AE901-01 | CONNECTING ROD BEARING,4AG TAC | | $5.63 |
| 13281-AE901-02 | CONNECTING ROD BEARING,4AG TAC | | $5.63 |
| 13281-AE901-03 | CONNECTING ROD BEARING,4AG TAC | | $5.63 |
| 13281-AE901-04 | CONNECTING ROD BEARING,4AG TAC | | $5.63 |
| 13500-70W | CAMSHAFT DEGREE WHEEL (ISKY) | | $17.95 |
| 13501-88221 | INTAKE CAMSHAFT,2TG 320 11.0mm | | $277.95 |
| 13501-AE801 | INTAKE CAMSHAFT,4AG 304 10.0mm | | $292.95 |
| 13501-AE811 | INTAKE CAMSHAFT,4AG 320 10.0mm | | $292.95 |
| 13501-AE851 | INTAKE CAMSHAFT,4AG 304 7.5mm | | $292.95 |
| 13501-AE861 | INTAKE CAMSHAFT,4AG 288 7.5mm | | $292.95 |
| 13501-AE871 | INTAKE CAMSHAFT,4AG 272 7.5mm | | $292.95 |
| 13501-AE891 | INTAKE CAMSHAFT,4AG 304 10.7mm | | $292.95 |
| 13501-AE901 | INTAKE CAMSHAFT,4AG 312 10.9mm | | $292.95 |
| 13501-AE951 | INTAKE CAMSHAFT,4AG 304 10.9mm | | $292.95 |
| 13501-EP701 | INTAKE CAMSHAFT,2E/3E 300/300 11.0 | | $688.36 |
| 13501-EP761 | INTAKE CAMSHAFT,2E/3E 280/280 11.0 | | $688.36 |
| 13501-MA272 | INTAKE CAMSHAFT,5MG 272 | | $361.95 |
| 13501-TA051 | INTAKE CAMSHAFT,2TG 304 10.0mm | | $266.95 |
| 13502-88221 | EXHAUST CAMSHAFT,2TG 304 10.7mm | | $278.95 |
| 13502-AE801 | EXHAUST CAMSHAFT,4AG 304 10.0mm | | $370.95 |
| 13502-AE811 | EXHAUST CAMSHAFT,4AG 300 10.0mm | | $370.95 |
| 13502-AE821 | EXHAUST CAMSHAFT,4AG 288 10.0mm | | $397.95 |
| 13502-AE831 | EXHAUST CAMSHAFT,4AG 272 10.0mm | | $370.95 |
| 13502-AE851 | EXHAUST CAMSHAFT,4AG 304 7.5mm | | $370.95 |
| 13502-AE861 | EXHAUST CAMSHAFT,4AG 288 7.5mm | | $370.95 |
| 13502-AE871 | EXHAUST CAMSHAFT,4AG 272 7.5mm | | $370.95 |
| 13502-AE901 | EXHAUST CAMSHAFT,4AG 304 10.9mm | | $370.95 |
| 13502-AE951 | EXHAUST CAMSHAFT,4AG 296 10.9mm | | $370.95 |
| 13502-MA272 | EXHAUST CAMSHAFT,5MG 272 | | $361.95 |
| 13502-TA051 | EXHAUST CAMSHAFT,2TG 272 10.0mm | | $256.95 |
| 13502-TA052 | EXHAUST CAMSHAFT,2TG 288 9.6mm | | $266.95 |
| 13506-25010 | NO.1 CAM CHAIN,2TG & 2TC | | $47.95 |
| 13506-33010 | NO.1 CAM CHAIN,18RG & 18RC | | $48.95 |
| 13507-88210 | NO.2 CAM CHAIN,2TG/18RG | | $86.95 |
| 13511-20R51-A | CAMSHAFT,20/22R 304 7.16mm | (!) | $197.95 |
| 13511-20R51-C | CAMSHAFT,20/22R 288 6.76mm | (!) | $197.95 |
| 13511-RA274 | CAMSHAFT,20/22R 274/274 10.66mm | | $215.95 |
| 13511-RN451 | CAMSHAFT,20/22R 254 7.10mm EFI | | $187.95 |
| 13511-TE214 | CAMSHAFT,2T/3T 214/306 .429 | | $187.95 |
| 13511-TE280 | CAMSHAFT,2T/3T 280/280 | | $187.95 |
| 13511-TE286 | CAMSHAFT,2T/3T 286/286 11.8mm | | $187.95 |
| 13511-TE308 | CAMSHAFT,2T/3T 308/318 .560/544 | NOS | $187.95 |
| 13520-20R51 | CAMSHAFT TIMING GEAR,20R/22R | | $54.95 |
| 13520-RA051 | CAMSHAFT TIMING GEAR,18RG/2TG | (*) | $66.95 |
| 13520-TE001 | CAMSHAFT TIMING GEAR,2TC/3TC | (*) | $139.95 |
| 13521-33010 | CRANKSHAFT GEAR,2TG/18RG | | $20.95 |
| 13522-33010 | LAYSHAFT DRIVE GEAR,2TG/18RG | | $31.95 |
| 13523-88220 | CAMSHAFT TIMING GEAR,2TG/18RG | | $44.95 |
| 13523-AE801 | CAMSHAFT TIMING PULLEY,4AG TAC | | $21.95 |

| ITEM | DESCRIPTION | | RETAIL |
|---|---|---|---|
| 13523-AE901 | CAMSHAFT TIMING PULLEY,4AG | (!) | $21.95 |
| 13523-ST651 | CAMSHAFT TIMING PULLEY,3SG/3SGT | | $394.95 |
| 13528-33010 | INTERMEDIATE DRIVE GEAR,2TG/18RG | | $17.95 |
| 13540-33014 | NO.1 CHAIN TENSIONER,18RG | | $30.95 |
| 13540-88221 | NO.1 CHAIN TENSIONER,2TG | | $31.95 |
| 13550-88210 | NO.2 CHAIN TENSIONER,2TG | | $82.95 |
| 13550-88270 | NO.2 CHAIN TENSIONER,2TG/18RG | | $82.95 |
| 13559-88260 | NO.2 CHAIN SLIPPER,2TG | | $32.95 |
| 13559-88270 | NO.2 CHAIN SLIPPER,18RG | | $34.95 |
| 13561-25010 | NO.1 CHAIN DAMPER,2TG | | $6.69 |
| 13561-34010 | NO.1 CHAIN DAMPER,18RG | | $13.95 |
| 13562-88280 | NO.2 CHAIN DAMPER,2TG/18RG | | $17.95 |
| 13563-88220 | NO.3 CHAIN DAMPER,2TG | | $31.95 |
| 13563-88250 | NO.3 CHAIN DAMPER,18RG | | $48.95 |
| 13711-20R51 | INTAKE VALVE,20R/22R | (*) | $21.95 |
| 13711-88212 | INTAKE VALVE,18RG | | $28.95 |
| 13711-88224 | INTAKE VALVE,2TG | | $28.95 |
| 13711-TA001 | INTAKE VALVE,2TG | (*) | $32.95 |
| 13711-TE002 | INTAKE VALVE,2TC/3TC | (*) | $21.95 |
| 13715-20R51 | EXHAUST VALVE,20R/22R | (*) | $45.95 |
| 13715-88222 | EXHAUST VALVE,2TG/18RG | | $36.95 |
| 13715-RA052 | EXHAUST VALVE,18RG | (*) | $51.95 |
| 13715-TA001 | EXHAUST VALVE,2TG | (*) | $42.95 |
| 13715-TE002 | EXHAUST VALVE,2TC/3TC | (*) | $51.95 |
| 13734-20R52 | VALVE SPRING SEAT,20R/22R | | $7.29 |
| 13734-TA001 | VALVE SPRING SEAT,2TG/18RG | | $6.99 |
| 13734-TE001 | VALVE SPRING SEAT,2TC/3TC | | $6.99 |
| 13741-20R51 | VALVE SPRING RETAINER,20R/22R | | $14.95 |
| 13741-AE801 | VALVE SPRING RETAINER,4AG | | $15.95 |
| 13741-TA001 | VALVE SPRING RETAINER,2TG/18RG | | $14.95 |
| 13741-TE751 | VALVE SPRING RETAINER,2TC/3TC | | $14.95 |
| 13751-88210-01 | VALVE LIFTER,2TG/18RG | | $24.95 |
| 13751-AE851 | VALVE LIFTER,4AG TAC | (*) | $40.95 |
| 15100-19025 | HIGH VOLUME OIL PUMP,4AG | | $124.95 |
| 15100-RA051 | HIGH VOLUME OIL PUMP,18RG | | $183.95 |
| 15100-TA051 | HIGH VOLUME OIL PUMP,2TC/3TC/2TG | | $183.95 |
| 15103-AE852 | OIL PUMP GEAR SET,4AG | (*) | $131.95 |
| 17011-AE901 | INTAKE MANIFOLD,4AF | (!) | $315.95 |
| 17011-TE003 | INTAKE MANIFOLD,2TC/3TC | (!) | $270.95 |
| 17104-AE801 | HEADER,TRD COROLLA 84-87 | | $647.95 |
| 17104-RA051 | HEADER,TRD 18RG | | $494.95 |
| 17104-TA051 | HEADER,TRD 2T/3T/2TG | | $494.95 |
| 17111-TA051 | INTAKE MANIFOLD,2TG | (!) | $214.95 |
| 17173-88220 | EXHAUST MANIFOLD GASKET,2T/3T/2TG | | $1.59 |
| 17173-88250 | EXHAUST MANIFOLD GASKET,18RG | | $5.19 |
| 17173-AE801 | EXHAUST MANIFOLD GASKET,4AG TAC | | $9.19 |
| 17177-88220 | INTAKE MANIFOLD GASKET,2TG | | $4.99 |
| 17177-88270 | INTAKE MANIFOLD GASKET,18RG | | $4.39 |
| 17177-AE801 | INTAKE MANIFOLD GASKET,4AG TAC | | $5.69 |
| 17800-1020 | VENT FILTER,CRANKCASE PUSH-IN | | $15.95 |
| 17800-1310 | AIR FILTER,SIDEDRAFT 1-3/4" | | $40.95 |
| 17800-1320 | AIR FILTER,SIDEDRAFT 3-3/4" | | $43.95 |

| ITEM | DESCRIPTION | | RETAIL |
|---|---|---|---|
| 40812-AE851 | FRONT STRUT BRACE,COROLLA 84-87 | | $265.80 |
| 40812-SW200 | STRUT BRACE F/R SET,MR2 91-UP | | $574.95 |
| 40818-AE851 | BUSHING,STABILIZER LINK AE86 | | $1.95 |
| 40819-AE801 | BUSHING,STABILIZER REAR AE86 | | $21.95 |
| 40819-AE851 | BUSHING,STABILIZER REAR AE86/AE82 | | $3.99 |
| 41201-19495 | RING & PINION,6.38" (4.30) | | $305.95 |
| 41201-29197 | RING & PINION,6.7" (4.10) | | $332.95 |
| 41201-29207 | RING & PINION,6.7" (4.30) | | $335.95 |
| 41201-29625 | RING & PINION,6.7" (4.55) | | $314.95 |
| 41201-AE851 | RING & PINION,6.7" (5.375) | (!) | $712.95 |
| 41201-AEA01 | RING & PINION,MR2/FX16 (3.526) | | $640.95 |
| 41201-AEA51 | RING & PINION,MR2/FX16 (4.667) | | $829.95 |
| 41201-TA001 | RING & PINION,6.7" (4.625) | (!) | $767.95 |
| 41201-TA003 | RING & PINION,6.7" (5.125) | (!) | $767.95 |
| 41300-RA002 | LIMITED SLIP DIFF KIT,7.5" | | $696.95 |
| 41301-AE801 | LIMITED SLIP DIFF,6.7"COROLLA 86-87 | | $584.95 |
| 41301-AE802 | LIMITED SLIP DIFF,6.7"ALLTRAC 88-89 | | $641.95 |
| 41301-AW002 | LIMITED SLIP DIFF,AE86/AE92/AW11 | | $823.95 |
| 41301-AW102 | LIMITED SLIP DIFF,SW20/AW11(4AGZ) | | $742.95 |
| 41301-MZ201 | LIMITED SLIP DIFF,8.0" SUPRA 86-89 | | $730.95 |
| 41301-RA002 | LIMITED SLIP DIFF,USE # 41300-RA002 | | $758.95 |
| 41301-RN001 | LIMITED SLIP DIFF,8.0" TRUCKS | | $659.95 |
| 41301-ST601 | LIMITED SLIP DIFF,CELICA 86-88 | | $793.95 |
| 41301-TA004 | LIMITED SLIP DIFF,6.7"COROLLA | | $653.95 |
| 41301-TE003 | LIMITED SLIP DIFF,6.38"COROLLA TE | | $748.95 |
| 41301-VN001 | LIMITED SLIP DIFF,8.0" V6 TRUCKS | | $712.95 |
| 41309-STA01 | DIFF SIDE GEAR SHAFT,6.7"ALLTRAC | | $94.95 |
| 41900-OIL | LIMITED SLIP DIFF OIL ADDITIVE | | $8.49 |
| 41910-14010 | DIFFERENTIAL OIL PUMP ASSY | | $462.95 |
| 41930-14010 | DIFFERENTIAL OIL FILTER(AN FITTING) | | $52.95 |
| 43200-AE801 | NEGATIVE ROLLBLOCK,COROLLA 75-87(*) | | $107.95 |
| 45461-TE351 | STEERING TIE ROD,COROLLA/CELICA | | $18.95 |
| 45516-AE851 | GROMMET,RACK HOUSING NO.1 AE86 | | $37.95 |
| 45516-AEA01 | GROMMET,RACK HOUSING NO.1 AE82/AE92 | | $18.95 |
| 45516-EP701 | GROMMET,RACK HOUSING NO.1 EP71 | | $16.95 |
| 45517-AE851 | GROMMET,RACK HOUSING NO.2 AE86 | | $26.95 |
| 45517-AEA01 | GROMMET,RACK HOUSING NO.2 AE82/AE92 | | $27.95 |
| 45517-EP701 | GROMMET,RACK HOUSING NO.2 EP71 | | $13.95 |
| 48068-AE851-10 | LOWER CONTROL ARM RIGHT +10mm | | $191.95 |
| 48068-AE851-15 | LOWER CONTROL ARM RIGHT +15mm | | $188.95 |
| 48068-TE351-A | LOWER CONTROL ARM RIGHT +20mm | (*) | $193.95 |
| 48068-TE751-A | LOWER CONTROL ARM RIGHT +20mm | (*) | $174.95 |
| 48069-AE851-10 | LOWER CONTROL ARM LEFT +10mm | | $191.95 |
| 48069-AE851-15 | LOWER CONTROL ARM LEFT +15mm | | $191.95 |
| 48069-TE351-A | LOWER CONTROL ARM LEFT +20mm | (*) | $193.95 |
| 48069-TE751-A | LOWER CONTROL ARM LEFT +20mm | (*) | $174.95 |
| 48100-AE820 | SPRING SET,COROLLA FX16 86-87 | | $249.95 |
| 48100-AE860 | SPRING SET,COROLLA 85-87 | | $249.95 |
| 48100-AE920 | SPRING SET,COROLLA 88-90 | | $249.95 |
| 48100-AW100 | SPRING SET,MR2 85-90 | | $269.95 |
| 48100-LS400 | SPRING SET,LEXUS LS400 89-90 | | $419.95 |
| 48100-MA600 | SPRING SET,SUPRA 82-85 | | $289.95 |

| ITEM | DESCRIPTION | | RETAIL |
|---|---|---|---|
| 48815-STB51-28 | BUSHING,FRONT STABILIZER ST185 | | $5.39 |
| 48815-TA451 | BUSHING,STABILIZER TE71/AE86 | | $2.69 |
| 48815-TE051 | BUSHING,FRONT STABILIZER TE71/AE86 | | $2.69 |
| 48817-AE851 | BUSHING,FRONT STABILIZER AE86/AE92 | | $5.59 |
| 48818-AE951-14 | BUSHING,FRONT STABILIZER AE92 | | $20.95 |
| 48818-AE951-15 | BUSHING,REAR STABILIZER AE92 | | $20.95 |
| 48818-AEA51-16 | BUSHING,REAR STABILIZER AE82 | | $6.29 |
| 48818-ST651-16 | BUSHING,REAR STABILIZER ST165 | | $4.59 |
| 48819-EL310 | BOLT,FRONT STABILIZER EL31 | | $3.49 |
| 48824-EL310 | STABILIZER BRACKET,FRONT EL31 | | $21.95 |
| 51100-6024 | ROLLBAR RACE,CELICA 78-81 | (!) | $259.95 |
| 51100-6027 | ROLLBAR RACE,CELICA/SUPRA 82-85 | (!) | $259.95 |
| 51100-6046 | ROLLBAR RACE,COROLLA 84-87 | (!) | $259.95 |
| 51100-6047 | ROLLBAR RACE,CELICA 86-88 | (!) | $259.95 |
| 51100-6050 | ROLLBAR RACE,MR2 85-89 | (!) | $259.95 |
| 51100-6051 | ROLLBAR RACE,FX16 86-88 | (!) | $259.95 |
| 51100-6052 | ROLLBAR RACE,CELICA 71-77 | (!) | $259.95 |
| 51100-6053 | ROLLBAR RACE,SUPRA 86-90 | (!) | $259.95 |
| 51100-6078 | ROLLBAR RACE,COROLLA 75-82 | (!) | $259.95 |
| 51100-6124 | ROLLBAR STREET,CELICA 78-81 | (!) | $209.95 |
| 51100-6127 | ROLLBAR STREET,CELICA/SUPRA 82-85 | (! | $209.95 |
| 51100-6146 | ROLLBAR STREET,COROLLA 85-87 | (!) | $209.95 |
| 51100-6147 | ROLLBAR STREET,CELICA 86-88 | (!) | $209.95 |
| 51100-6149 | ROLLBAR STREET,COROLLA 73-74 | (!) | $209.95 |
| 51100-6150 | ROLLBAR STREET,MR2 85-89 | (!) | $209.95 |
| 51100-6151 | ROLLBAR STREET,FX16 86-88 | (!) | $209.95 |
| 51100-6152 | ROLLBAR STREET,CELICA 71-77 | (!) | $209.95 |
| 51100-6153 | ROLLBAR STREET,SUPRA 86-90 | (!) | $209.95 |
| 51100-6178 | ROLLBAR STREET,COROLLA 75-82 | (!) | $209.95 |
| 51100-8303 | ROLLCAGE KIT,MR2 91- BOLT-IN | (!) | $702.95 |
| 51100-8341 | ROLLCAGE KIT,TRUCK 84-88 BOLT-IN | (! | $499.95 |
| 51100-8347 | ROLLCAGE KIT,CELICA 86-88 BOLT-IN | (! | $499.95 |
| 51100-8350 | ROLLCAGE KIT,MR2 85-89 BOLT-IN | (!) | $499.95 |
| 51100-8351 | ROLLCAGE KIT,FX16 86-88 BOLT-IN | (!) | $499.95 |
| 51100-C6024 | ROLLCAGE U-WELD,CELICA 78-81 | (!) | $199.95 |
| 51100-C6046 | ROLLCAGE U-WELD,COROLLA 85-87 | (!) | $199.95 |
| 51100-C6051 | ROLLCAGE U-WELD,FX16 86-88 | (!) | $199.95 |
| 51100-C6078 | ROLLCAGE U-WELD,COROLLA 75-82 | (!) | $199.95 |
| 71100-SP001-01 | RACE SEAT,HIGH BACK (BLACK&GREY) | (!) | $831.95 |
| 71100-SP001-02 | RACE SEAT,HIGH BACK (TRD STRIPE) | (!) | $831.95 |
| 71100-TA001 | RACE SEAT,LOW BACK (YELLOW) | (!) | $418.95 |
| 71100-TA001-A | RACE SEAT,LOW BACK (BLACK) | (!) | $418.95 |
| 75400-TRD01 | TRD LOGO EMBLEM PLATE (3 COLOR) | | $5.95 |
| 84160-14060 | SUPRA TEMS BYPASS SWITCH | | $27.95 |
| 90072-01200 | VALVE ADJUST SHIM 1.200mm | | $3.95 |
| 90072-01250 | VALVE ADJUST SHIM 1.250mm | | $3.95 |
| 90072-01300 | VALVE ADJUST SHIM 1.300mm | | $3.95 |
| 90072-01350 | VALVE ADJUST SHIM 1.350mm | | $3.95 |
| 90072-01400 | VALVE ADJUST SHIM 1.400mm | | $3.95 |
| 90072-01425 | VALVE ADJUST SHIM 1.425mm | | $3.95 |
| 90072-01450 | VALVE ADJUST SHIM 1.450mm | | $3.95 |
| 90072-01500 | VALVE ADJUST SHIM 1.500mm | | $3.95 |

| ITEM | DESCRIPTION | RETAIL |
|---|---|---|
| 90072-01525 | VALVE ADJUST SHIM 1.525mm | $3.95 |
| 90072-01550 | VALVE ADJUST SHIM 1.550mm | $3.95 |
| 90072-01600 | VALVE ADJUST SHIM 1.600mm | $3.95 |
| 90072-01650 | VALVE ADJUST SHIM 1.650mm | $3.95 |
| 90072-01675 | VALVE ADJUST SHIM 1.675mm | $3.95 |
| 90072-01700 | VALVE ADJUST SHIM 1.700mm | $3.95 |
| 90072-01725 | VALVE ADJUST SHIM 1.725mm | $3.95 |
| 90072-01750 | VALVE ADJUST SHIM 1.750mm | $3.95 |
| 90072-01775 | VALVE ADJUST SHIM 1.775mm | $3.95 |
| 90072-01800 | VALVE ADJUST SHIM 1.800mm | $3.95 |
| 90072-01825 | VALVE ADJUST SHIM 1.825mm | $3.95 |
| 90072-01850 | VALVE ADJUST SHIM 1.850mm | $3.95 |
| 90072-01875 | VALVE ADJUST SHIM 1.875mm | $3.95 |
| 90072-01900 | VALVE ADJUST SHIM 1.900mm | $3.95 |
| 90072-01950 | VALVE ADJUST SHIM 1.950mm | $3.95 |
| 90072-01975 | VALVE ADJUST SHIM 1.975mm | $3.95 |
| 90072-02000 | VALVE ADJUST SHIM 2.000mm | $3.95 |
| 90072-02025 | VALVE ADJUST SHIM 2.025mm | $3.95 |
| 90072-02050 | VALVE ADJUST SHIM 2.050mm | $3.95 |
| 90072-02075 | VALVE ADJUST SHIM 2.075mm | $3.95 |
| 90072-02100 | VALVE ADJUST SHIM 2.100mm | $3.95 |
| 90072-02150 | VALVE ADJUST SHIM 2.150mm | $3.95 |
| 90072-02175 | VALVE ADJUST SHIM 2.175mm | $3.95 |
| 90072-02200 | VALVE ADJUST SHIM 2.200mm | $3.95 |
| 90072-02250 | VALVE ADJUST SHIM 2.250mm | $3.95 |
| 90072-02275 | VALVE ADJUST SHIM 2.275mm | $3.95 |
| 90072-02300 | VALVE ADJUST SHIM 2.300mm | $3.95 |
| 90072-02350 | VALVE ADJUST SHIM 2.350mm | $3.95 |
| 90072-02400 | VALVE ADJUST SHIM 2.400mm | $3.95 |
| 90072-02425 | VALVE ADJUST SHIM 2.425mm | $3.95 |
| 90072-02450 | VALVE ADJUST SHIM 2.450mm | $3.95 |
| 90072-02475 | VALVE ADJUST SHIM 2.475mm | $3.95 |
| 90072-02500 | VALVE ADJUST SHIM 2.500mm | $3.95 |
| 90072-02525 | VALVE ADJUST SHIM 2.525mm | $3.95 |
| 90072-02550 | VALVE ADJUST SHIM 2.550mm | $3.95 |
| 90072-02575 | VALVE ADJUST SHIM 2.575mm | $3.95 |
| 90072-02600 | VALVE ADJUST SHIM 2.600mm | $3.95 |
| 90072-02625 | VALVE ADJUST SHIM 2.625mm | $3.95 |
| 90072-02650 | VALVE ADJUST SHIM 2.650mm | $3.95 |
| 90072-02675 | VALVE ADJUST SHIM 2.675mm | $3.95 |
| 90072-02700 | VALVE ADJUST SHIM 2.700mm | $3.95 |
| 90072-02725 | VALVE ADJUST SHIM 2.725mm | $3.95 |
| 90072-02750 | VALVE ADJUST SHIM 2.750mm | $3.95 |
| 90072-02775 | VALVE ADJUST SHIM 2.775mm | $3.95 |
| 90072-02800 | VALVE ADJUST SHIM 2.800mm | $3.95 |
| 90072-02825 | VALVE ADJUST SHIM 2.825mm | $3.95 |
| 90072-02850 | VALVE ADJUST SHIM 2.850mm | $3.95 |
| 90072-02875 | VALVE ADJUST SHIM 2.875mm | $3.95 |
| 90072-02900 | VALVE ADJUST SHIM 2.900mm | $3.95 |
| 90072-02925 | VALVE ADJUST SHIM 2.925mm | $3.95 |
| 90072-02950 | VALVE ADJUST SHIM 2.950mm | $3.95 |
| 90072-02975 | VALVE ADJUST SHIM 2.975mm | $3.95 |

| ITEM | DESCRIPTION | RETAIL |
|---|---|---|
| 90919-RN451 | SPARK PLUG WIRE SET 20/22R | $69.95 |
| 90919-TA651 | SPARK PLUG WIRE SET,2TG | $72.95 |
| 90919-TE751 | SPARK PLUG WIRE SET,COROLLA 75-82 | $61.95 |
| 90948-EL310 | RETAINER,STABILIZER BUSHING EL31 | $1.95 |
| 94300-SP009 | NUT,TIE-ROD END TE351 (M14X1.5 RH) | $0.49 |
| 94300-SP010 | NUT,TIE-ROD END TE351 (M14X1.5 LH) | $1.95 |