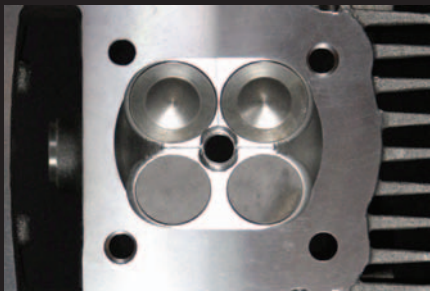


■DOHC 4V+D (Auto decompression)

For 12V Monkey/Gorilla • CRF50F/XR50R • CRF70F/XR70R



Large size ports (IN/EX)



Intake port (polished finish)



Auto decompression Camshaft

■Detailed spec of DOHC 4V+D Cylinder dead

Using 4-valve setup allows you to increase the area of the valve curtain and achieve output higher than with 2 valves. Also, by setting up the super plugs in the center, we increase combustion efficiency in relation to increased high-pressure compression.M8 spark plug. For the combustion chamber we narrowed the valve position and achieved a compact pent roof shaped combustion chamber. Valve diameter Intake : 22mm×2 / Exhaust : 19mm×2
The intake port has a polished finish for increase output at high RPMs. Straight port used for the exhaust port. As this is a high-performance engine, by using a straight type instead of the stock position for the exhaust port, we achieve increase exhaust efficiency. **※Need specially made DOHC exhaust system.** Billet left side cover equipped.

■Auto decompression Camshaft

Auto De-comp camshaft achieves light kick-start even high compression big bore engine.Bearing supports are used on both ends of the camshaft to reduce camshaft journal friction resistance.

The camshaft drive method is setup as semi-gear train and an adjusted method is used for the cam gears.

Valve timing can be adjusted. Available 5 type of camshaft profile, you can choice upon your riding and performance needs.

■SCUT100cc (Bore : 57mm×Stroke : 39mm) SCUT106cc (Bore : 57mm×Stroke : 41.4mm ※Stock crankshaft)

124cc (Bore : 54mm×Stroke : 54mm) SCUT125cc (Bore : 57mm×Stroke : 48.9mm)

SCUT138cc (Bore : 57mm×Stroke : 54mm) **※No Complete engine of SCUT106cc**

■All aluminum ceramic plated cylinder (The "SCUT" structure is patented.)

This cylinder is made of all aluminum and ceramic plated to add durability, gas-tightness and heat transfer.

TAKEGAWA original thermosensor can be attached directly on the cylinder.

SCUT Cylinder for 100cc / 125cc • HA Cylinder for 124cc : M5 thermosensor

SCUT Cylinder for 138cc : C1 adapter (07-04-0031) +M5 thermosensor

■Forged piston

■Long Stroke Crank shaft

To combine with the high powered engine, we utilize special bearings, which has a larger inner diameter, and the shaft, which is 22mm diameter, at journal portion, the main stressed point.

124cc, SCUT125cc, SCUT138cc can be selected from two types of crankshaft.

(Two-point support bearings) (Three-point support bearings)

SCUT100cc Crank shaft : Two-point support bearings

SCUT106cc : Stock crank shaft

DOHC 4V+D (SCUT100cc / SCUT106cc / 124cc / SCUT125cc / SCUT138cc) For 12V Monkey/Gorilla • CRF50F/XR50R • CRF70F/XR70R

To get maximum performance, need carburetor, exhaust system and clutch kit.

※When installing the 3-point support crankshaft, 100cc crank shaft, the crankshaft must be press fit into the crankshaft. Special tools are required.

■NOTE : Complete engine for Monkey • Gorilla

To install the Complete Engine, you must change the front end because the engine is longer and with the stock front fork and stock top bridge & stem, the engine would interfere with the tires. We recommend using our front fork kit series. Please check web catalog for more detail.

※Need specially made DOHC exhaust system.

■NOTE : Complete engine for CRF50F/XR50R • CRF70F/XR70R

To install the Complete Engine, you must change the front end because the engine is longer and with the stock front fork and stock top bridge & stem, the engine would interfere with the tires. Sorry, we do not sell the front fork kit or other conforming parts mentioned above. Also, frames and front fork kits from other companies are sold elsewhere but we do not perform tests to confirm proper installation.

Install these products at your on liability. Our Dig Crosser Exhaust cannot be installation simultaneously on the Complete Engine.

Applicable model : 12V Monkey/Gorilla (Z50J-2000001 ~ / AB27-1000001~1899999) Monkey BAJA • Monkey R/RT
CRF50F (AE03-1400001~) XR50R (AE03-1000001~) CRF70F (DE02-1700001~) XR70R (DE02-1300001~)



01-06-6030



01-05-6006



01-06-6032

Name	DOHC4V+D SCUT100cc Bore & Short stroke Kit (Two-point supported crank shaft)
Item number	01-06-6030

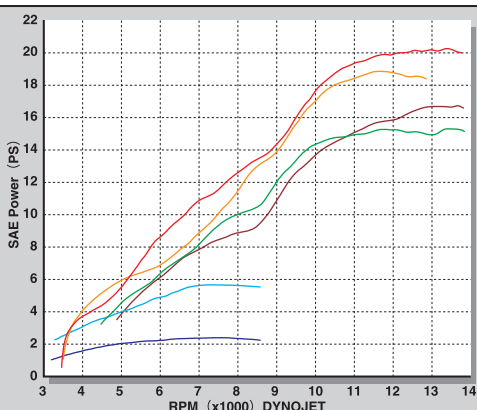
Name	DOHC4V+D SCUT106cc Bore Up Kit (Stock crank shaft)
Item number	01-05-6006

Name	DOHC4V+D Bore & Stroke Up Kit 124cc
Item number	Two-point supported crank shaft 01-06-6031 Three-point supported crank shaft 01-06-6032

Name	Forged Piston Kit for DOHC4V / DOHC4V+D / DESMO124cc
Item number	01-02-6028

Name	DOHC4V+D SCUT125cc Bore & Stroke Up Kit
Item number	Two-point supported crank shaft 01-06-6033 Three-point supported crank shaft 01-06-6034

Name	DOHC4V+D SCUT138cc Bore & Stroke Up Kit
Item number	Two-point supported crank shaft 01-06-6035 Three-point supported crank shaft 01-06-6036



Graph data

※To prevent the engine from getting damaged, keep specified rpm range.
※Tested at the condition of our test facility, actual power may vary.

- DOHC4V SCUT 125cc (D25/30 Camshaft) +Super street outer rotor Kit
+KEIHIN PE28 Carburetor+Hyper street exhaust system
- DOHC4V 124cc (D25/30 Camshaft)
+KEIHIN PE28 Carburetor+Hyper street exhaust system
- DOHC4V SCUT 100cc (D25/25 Camshaft)
+inner rotor spec+MIKUNI VM26 Carburetor+Racing exhaust system
- DOHC4V SCUT 106cc Kit (D15/15 Camshaft)
+Outer rotor spec+MIKUNI VM26 Carburetor+Hyper street exhaust system
- Hyper S-Stage Bore Up Kit 88cc+Stock exhaust system
- Stock engine+Stock exhaust system

DOHC 4V+D Complete engine (SCUT100cc / 124cc / SCUT125cc / SCUT138cc) **For 12V Monkey/Gorilla • CRF50F/XR50R • CRF70F/XR70R**



■ The Complete Engine is a high-quality engine assembled by our expert mechanics with craftsmanship.



Stock Crankcase



TAKEGAWA Crankcase

Heavy duty ribs and bulkheads



Bearing hold plate



Oil jet system

■ A new designed TAKEGAWA original heavy duty crankcase

This TAKEGAWA original heavy duty crankcase is a high quality crankcase which is more durable to get over the increased impact of crankcase with big bore engines with the dedicated designs in details. In addition, the direct oil pump connecting to the crankshaft delivers about twice as much oil delivery as the conventional heavy duty oil pump. The customized holding plate is equipped to hold the transmission bearings which is abused by the big torque of high output power engine.

$\phi 6\text{mm}$ breather outlet pipe is used in order to reduce more pressure from the crankcase (compared with $\phi 4\text{mm}$ stock) .

The crankcase has an oil jet nozzle. It injects the oil directly and constantly to the small end of connecting rod and the inside of piston in order to lubricate and cooling.

■ Primary kick start system

With the primary type kick starter, engine start by grab the clutch in any gear. It is recommended for racing where quick engine restart is needed. Engine start without burden on the transmission is possible with the primary type kick start.



Special Clutch (Primary type)



TAF 5-speed close ratio transmission



Super Street Outer Rotor

■ Heavy-duty clutch comes in two types, primary and secondary.

The 5 discs are used for the reinforced clutch. No clutch slippage is happen.

The Primary Type : For the wet type clutch. The cover is made of die-cast magnesium and brown painted.

The Secondary Type : Wet type clutch comes in standard. The cover is made of die-cast aluminum. The aluminum clutch cover is buff polished and clear coated. Our wet type clutch cover is patented. It is possible to attach a thermostat and equipped with an oil cooler outlet. ■ Thermo unit [02-01-5052](#)

A dry type clutch can be selected for the secondary type. An oil cooler outlet to the dry clutch is optional unit, sold separately.

■ Close Ratio Transmission : Choice of transmission is 4 speed or TAF 5 speed.

TAF 5-speed Close-ratio Transmission has high durability and performance. The transmission has 2 type of gear ratios, the S-Touring and the Super Street. The standard feature of our Complete engine has the 5-speed S-Touring.

Optional Super Street Type can be ordered. ■ The specialized manifold is included.

■ Super Street Outer Rotor Kit

This kit will generate the stable high output power for the street to racing use. Also, when riding on the street, it will generate enough electricity to be able to light up as bright as the stock lights and to be able to charge the consumed power. A medium sized flywheel, which is about 50% lighter than that of stock, is utilized as TAKEGAWA rotor body. It achieves "easy to ride and the required electric power generation" while reducing the burden to the crankshaft. Moreover, the pick-up position is different from that of the stock and an optimized ignition timing is pre-set to adapt the various TAKEGAWA Bore Up Kits. Both functions allow this rotor to have super output features and response which the stock rotor cannot deliver.

■ TAKEGAWA original die-cast aluminum generator cover

There are two type of generator cover, primary and secondary. A detach type of drive sprocket cover is used for the primary type. So you only need to remove the sprocket cover without removing the generator cover when changing sprockets.

Buff polishing and clear coated on the aluminum surface of the secondary type.

■ Hyper C.D.I. : Since this Hyper C.D.I. can change the ignition features from low speed to high speed, you can set up the ignition feature to suit TAKEGAWA engine.

■DOHC 4V+D Complete engine (SCUT100cc / 124cc / SCUT125cc / SCUT138cc) For 12V Monkey/Gorilla • CRF50F/XR50R • CRF70F/XR70R

■Custom order for complete engine.

Changes the specifications of clutches, close-ratio transmissions and titanium retainers are optional. (require additional fees)
We will give an estimate upon your request. Please refer to the "Optional Order Form" regarding additional fees for changes to the specifications of camshafts, clutches, close-ratio transmissions and titanium retainers.

※Custom order is only available when you place order new engine.

Optional Order Form

■Transmission : extra cost

Standard TAF S-touring 5 speed transmission can be changed to TAF Super Street type.

Gear ratio (S-Touring 5-speed) : 1st gear : 2.357 2nd gear : 1.611 3rd gear : 1.190 4th gear : 0.958 5th gear : 0.807

Gear ratio (Super Street 5-speed) : 1st gear : 2.357 2nd gear : 1.764 3rd gear : 1.400 4th gear : 1.136 5th gear : 1.000

4 speed close ratio transmission (Secondary type) : 1st gear : 2.615 2nd gear : 1.823 3rd gear : 1.350 4th gear : 1.090

4 speed close ratio transmission (Primary type) : 1st gear : 3.182 2nd gear : 1.706 3rd gear : 1.238 4th gear : 0.917

■Secondary crankcase type can be changed to Dry type clutch : All up grade apply extra cost.

Dry clutch have choice from cable or hydraulic type. ※4-speed transmission is not available with Dry type clutch.

■Titanium valve spring retainer : extra cost. You can choice titanium valve spring retainer.

■DOHC 4V+D Complete engine (Standard spec)

Standard equipment : DOHC4V cylinder head, D25/30D Camshaft (D25/25D Camshaft 100cc only) ,TAF 5 speed close ratio transmission, Special clutch kit, Super street outer rotor, Hyper CDI and inlet pipe.

■SCUT100cc (Bore : 57mm×Stroke : 39mm / Compression ratio 12.8 : 1)

■124cc (Bore : 54mm×Stroke : 54mm / Compression ratio 12.1 : 1)

■SCUT125cc (Bore : 57mm×Stroke : 48.9mm / Compression ratio 12.5 : 1)

■SCUT138cc (Bore : 57mm×Stroke : 54mm / Compression ratio 11.6 : 1)



01-00-9314



01-00-9315



01-00-9301

Applicable model : 12V Monkey/Gorilla (Z50J-2000001~ / AB27-1000001~1899999) Monkey BAJA • Monkey R/RT
CRF50F (AE03-1400001~) XR50R (AE03-1000001~) CRF70F (DE02-1700001~) XR70R (DE02-1300001~)

■NOTE : Complete engine for Monkey • Gorilla

To install the Complete Engine, you must change the front end because the engine is longer and with the stock front fork and stock top bridge & stem, the engine would interfere with the tires. We recommend using our front fork kit series. Please check web catalog for more detail.

※Need specially made DOHC exhaust system.

■NOTE : Complete engine for CRF50F/XR50R • CRF70F/XR70R

To install the Complete Engine, you must change the front end because the engine is longer and with the stock front fork and stock top bridge & stem, the engine would interfere with the tires. Sorry, we do not sell the front fork kit or other conforming parts mentioned above. Also, frames and front fork kits from other companies are sold elsewhere but we do not perform tests to confirm proper installation.

Install these products at your on liability. Our Dig Crosser Exhaust cannot be installation simultaneously on the Complete Engine.

Name	DOHC4V+D Complete engine (Secondary kick starter type) (Standard spec)
Item number	SCUT100cc (D25/25D Camshaft) Item number 01-00-9313 124cc (D25/30D Camshaft) Item number 01-00-9315 SCUT125cc (D25/30D Camshaft) Item number 01-00-9314 SCUT138cc (D25/30D Camshaft) Item number 01-00-9316

Name	DOHC4V+D Complete engine (Primary kick starter type) (Standard spec)
Item number	SCUT100cc (D25/25D Camshaft) Item number 01-00-9300 124cc (D25/30D Camshaft) Item number 01-00-9301 SCUT125cc (D25/30D Camshaft) Item number 01-00-9302 SCUT138cc (D25/30D Camshaft) Item number 01-00-9303

■Ordering information

- It takes 2-4 weeks to build from the placed order. • Engine oil is not included.
- Kick starter arm not included. We recommend use of our steel-forged kickstand arm (chrome) [02-08-004](#). Kick-starter arms from other companies may interfere with the clutch cover.
- This is developed specifically for competition and cannot be used on public roads.

■Optional parts for DOHC 4V+D



■Optional camshaft

Name	Camshaft for DOHC4V+D (Auto decompression)	
Applicable model	For vehicles equipped with DOHC4V+D ※DOHC 4V can not be installed.	
Item number	D10/10D Camshaft	01-08-0150
	D15/15D Camshaft	01-08-0151
	D25/25D Camshaft	01-08-0152
	D25/30D Camshaft	01-08-0153
	D30/30D Camshaft	01-08-0154



Carburetor Kit (KEIHIN PE28)



Exhaust system for DOHC4V+D
(Power silent oval exhaust system)



Exhaust system for DOHC4V+D
(Racing exhaust system)

■To purchase Carburetor Kit

Complete engine uses a manifold attached. Please purchase Carburetor, Insulator, and Cap screw.

■Case of KEIHIN PE28

KEIHIN PE28 Carburetor [03-03-027](#) High flow filter for KEIHIN PE28 [03-01-1094](#) Insulator for KEIHIN PE28 [00-03-0211](#)

Cap screw (M6×15 / 10 pcs) [00-00-0042](#)

■Case of MIKUNI VM26

MIKUNI VM26 Carburetor [03-03-0321](#) High flow filter for MIKUNI VM26 [03-01-1064](#) Insulator for MIKUNI VM26 [00-03-0210](#)

Cap screw (M6×15 / 10 pcs) [00-00-0042](#)

Name	Carburetor Kit for DOHC4V+D	
Item number	KEIHIN PE28	03-05-097
	MIKUNI VM26	03-05-0472

■To purchase Exhaust system ※Need specially made DOHC exhaust system.

Name	Exhaust system for DOHC4V+D	
Item number	Power silent oval	04-02-0069
	Racing	04-01-0029
	Z style	04-02-0070



Special Clutch Kit (Wet clutch/Brown)



Special Clutch Kit (Wet clutch/Black)



Thermostat Unit

■To purchase Special clutch Kit

■Special Clutch

We have incorporated a damper into the primary driven gear with an aim to reduce the shock felt at the time of clutch engagement. As the clutch is installed onto the transmission main shaft, the friction loss of the crankshaft can be reduced resulting in the improvement of the crankshaft durability and throttle response.

We have designed the clutch to comprise 5 friction disks so the clutch may suit a high power engine.

Regardless of whether for street or racing use.

■Die cast Clutch cover

Aluminum die-cast is used for the clutch cover and oil filter cover. The surface treatment clear buff polish.

Oil can be extracted to the oil cooler. We also offer an oil cooler kit for the die-cast clutch cover. (optional)

As an option, you can install a thermostat unit that uses a spring constructed from a form-adaptable alloy metal to help prevent overcooling. The oil element cartridge-type paper-based model that offers high filtration performance.

Equipped Clutch receiver and Oil level check window.

Thermostat Unit [02-01-5052](#) ※At the same time there is a need to install the 4・5・6 speed close ratio transmission.

There are other Dry clutch Kit. Please see the Web catalog

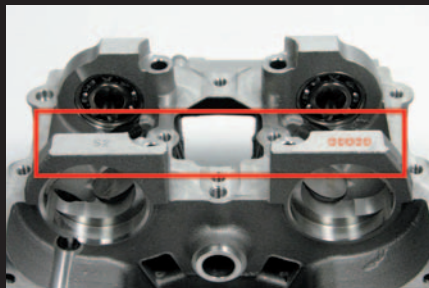
Name	Special Clutch Kit for 4・5・6 speed close ratio transmission	
Item number	Aluminum die-cast (Clear buff polish)	02-01-5021AL
	Aluminum die-cast (Brown finish)	02-01-5028
	Aluminum die-cast (Black finish)	02-01-5047

■How to change to Auto decompression function for old type DOHC 4V users.

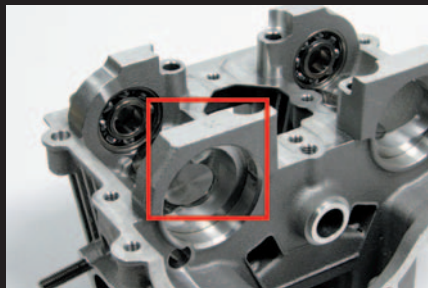
For old type DOHC 4V users, necessary to get an additional processing service with cylinder head when you would like to change to Auto decompression function. Processing services will be done at Takegawa factory.
Necessary to purchase the DOHC 4V+D Version Up Kit

■Processing service for old type DOHC 4V (Additional processing service for Auto decompression function)

Two kinds of processing service are existed. Processing service which customers disassemble and place an order by themselves.
Processing and desorption services which we accept the cylinder head as SUB ASSY, and make them SUB ASSY again after finish the process.
※Order numbers of processing service for old type DOHC 4V cylinder head are different by each serial numbers.



Serial number



Processing section



Parts is processed

Name	Old type DOHC4V processing service for Auto decompression camshaft (Processing services)
Applicable cylinder head	Old type DOHC4V Serial number : 00001~10474
Item number	12-01-0005

Name	Old type DOHC4V processing service for Auto decompression camshaft (Processing and desorption services)
Applicable cylinder head	Old type DOHC4V Serial number : 00001~10474
Item number	12-01-0007

Name	Old type DOHC4V processing service for Auto decompression camshaft (Processing services)
Applicable cylinder head	Old type DOHC4V Serial number : 10475~10668
Item number	12-01-0004

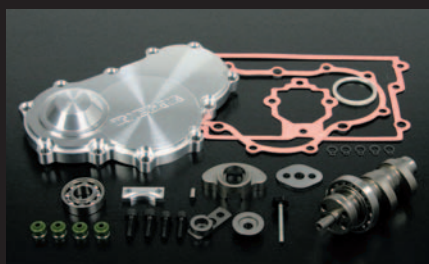
Name	Old type DOHC4V processing service for Auto decompression camshaft (Processing and desorption services)
Applicable cylinder head	Old type DOHC4V Serial number : 010475~10668
Item number	12-01-0006

■DOHC4V+D Version Up Kit

Version Up Kit can be Auto decompression specifications.

Kit : Auto decompression camshaft, Cylinder head side cover, CAM stopper plate, Cap screws, Cylinder head cover gasket, Cylinder head side cover gasket, Exhaust pipe gasket, Valve guide stem seals, Dowel pins, and Bearing.

※Applicable cylinder head : DOHC4V cylinder head has been processed. (for Auto decompression)
DOHC4V cylinder head serial number : 10669~



Name	DOHC4V+D Version Up Kit
Applicable cylinder head	DOHC4V cylinder head has been processed. (for Auto decompression) DOHC4V cylinder head serial number : 10669~
Item number	Included with 10D Camshaft 01-08-0155 Included with 15D Camshaft 01-08-0156 Included with 25D Camshaft 01-08-0157 Included with 30D Camshaft 01-08-0158