ECX70

Cobra

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Cobra Motorcycle MFG., Inc.
240 Uran Road
Hillsdale, MI 49242

DISCLAIMER OF WARRANTY

This motorcycle is sold "as is" with all faults, obvious or not. There are no warranties expressed or implied, including any warranty of merchantability and warranty of fitness for any particular purpose.

"WARNING"

THE COBRA ECX70 IS A COMPETITION MODEL ONLY AND IS NOT MANUFACTURED FOR, NOR SHOULD IT BE USED ON PUBLIC STREETS, ROADS OR HIGHWAYS.

THE USE OF THIS ATV SHOULD BE LIMITED TO PARTICIPATION IN SANCTIONED COMPETITION EVENTS UPON A CLOSED COURSE BY A SUFFICIENTLY SKILLED RIDER AND SHOULD NOT BE USED FOR GENERAL OFF-ROAD RECREATIONAL RIDING.

IMPROPER USE OF THIS MOTORCYCLE CAN CAUSE INJURY OR DEATH.

THIS BIKE IS INTENDED FOR EXPERIENCED RACERS ONLY AND NOT FOR BEGINNERS.

IT IS YOUR RESPONSIBILITY AS THE OWNER OF THIS COBRA PRODUCT OR AS THE PARENT, OR LEGAL GUARDIAN OF THE OPERATOR, TO KEEP THIS COBRA PRODUCT IN PROPER OPERATING CONDITION.

THIS ATV WAS DESIGNED FOR RIDERS THAT WEIGH LESS THAN 110 LBS WITH FULL RIDING GEAR AND SHOULD NOT BE OPERATED BY RIDERS THAT WEIGH MORE THAT.

BE SURE THAT THE RIDER ALWAYS WEARS ADEQUATE SAFETY GEAR EVERYTIME HE OR SHE RIDES THEIR COBRA ATV.

IMPORTANT SAFETY NOTICE

⚠ WARNING

Failure to follow WARNING instructions could result in severe injury or death to the machine operator, a bystander, or a person inspecting or repairing the machine.

CAUTION:
A CAUTION indicates special precautions that must be taken to avoid damage to the machine.

NOTE:
A NOTE provides key information to make procedures easier or clearer.

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General Information

Specifications - General

Items	ECX70
Dimensions	
Wheelbase	42” (1067mm)
Width Front / Rear	43” / 46” (1092mm / 1168mm)
Weight	210 lb
Engine	
Type	2-stroke, single cylinder, reed valve
Cooling system	Liquid-cooled
Displacement	64.8 cc (3.95 Cubic inches)
Bore and stroke	43 mm x 44.6 mm
Ignition system	Electronic
Spark plug	Champion 8339
Gap	0.023” – 0.025” (0.58 – 0.64 mm)
Fuel type	93 octane pump gasoline
	OTHER RACE FUELS ARE NOT RECOMMENDED
Oil type	*Cobra Venom 2-cycle Race Oil*
Fuel / oil mix ratios	32:1
Ignition timing	.050” (1.3mm) BTDC
Carburetion	26mm Mikuni VM
Main jet	190
Slow (Pilot) jet	50
Jet needle	5F21, 4th position from the top
Float height	
Transmission	
Speed	Six speed
Clutch	Manual hydraulic
Final drive ratio	13/48 T
Transmission / clutch oil type	85W 90 Gear Lubricant
Quantity	530 ml (18 oz)

Chassis	
Tire Pressure front / rear	(7 psi / 5 psi)
Travel, front / rear	240mm / 247mm (9.4” / 9.7”)
Race sag, front / rear	96mm / 99mm (3.8” / 3.9”)
Free sag, front / rear	38mm / 40mm (1.5” / 1.6”)

Specifications - Torque Values

ENGINE Fastener	Torque Value			Size & Remarks
	ft-lb	in-lb	Nm	
Cylinder head nuts	14	170	19	7mm
Engine oil drain	3	36	4	8 x 1.25
Engine oil fill	2	24	2.7	14 x 1.0
Spark Plug	(SP)	(SP)	(SP)	14 x 1.25
Crank case half	5	60	6.8	6 x 1.0
Crank case cover	5	60	6.8	6 x 1.0
Flywheel rotor nut	40	480	54	10 x 1.25 (G)
Clutch hub	40	480	54	10 x 1.25 (G)

Units of mm unless otherwise specified

(G) denotes the use of wicking / bearing retainer (green) thread locking agent to applied to the mating surfaces of the two components but not the threads.

(SP) To apply the proper torque to the spark plug when inserting, one must first screw the spark plug in until the metal gasket ring causes resistance and then turn another 1/8 to ¼ turn.

CHASSIS Fastener	Torque Value			Size & Remarks
	ft-lb	in-lb	Nm	
Handle bar mounts	15	177	20	8 x 1.25
Handle bar clamps	15	177	20	8 x 1.25
Front engine mount	22	265	30	8 x 1.25
Rear brake lever pivot	10	120	13.6	8 x 1.25
Upper shock mount	40	480	54	10 x 1.5
Lower shock mount	40	480	54	10 x 1.5
Swingarm pivot	75	900	102	14 x 2.0

Units of mm unless otherwise specified

(R or G) designates that the application requires the use of high strength (red or green) thread locking agent applied to the threads.

(B) designates that the application requires the use of medium strength (blue) thread locking agent applied to the threads.

Optional Suspension Components

Front shock springs

Weight of Rider (lb)	Helper	Main
Less than 65	SCEX1080 (RED, 80 LB/IN)	SCEXA145 (RED, 145 LB/IN)
65 to 100		SCEXA155 (YELLOW, 155 LB/IN)
Greater than 100	SCEX1095 (YELLOW, 95 LB/IN)	SCEXA165 (BLACK, 165 LB/IN)

Rear shock springs

Weight of Rider (lb)	Helper	Main
Less than 65	SCEX0110 (WHITE, 110 LB/IN)	SCEX1350 (RED, 350 LB/IN)
65 to 100	SCEX0125 (GOLD, 125 LB/IN)	SCEX1375 (WHITE, 375 LB/IN)
Greater than 100	SCEX0150 (150 LB/IN)	SCEX0400 (YELLOW, 400 LB/IN)

Break-In Procedure

Your Cobra Motorcycle is a close-tolerance high performance machine and break-in time is very important for maximum life and performance. The ECX70 can be ridden hard after the first ½ hour break-in time but it is recommended that no adjustments are made to the carburetion or suspension until the full 8 hours of bike break-in has elapsed. Also, after the engine, transmission, and drive train have been broken-in for the full 8 hours, the bike will be faster!

Use a fuel / oil mixture of 32:1 for the full 8 hour break-in period. Be sure to use 93 octane pump gas, or *Sunoco MO2$_X$* , with Cobra's specially formulated *Cobra Venom 2-cycle Race Oil*. (Part # MCMUOL02)

CAUTION:
Failure to use proper fuel or oil may result in premature engine wear, or damage to the machine.

Adhering to the following break-in schedule will result in long lasting high performance machine.

- First 5 minute period, operate the bike in neutral with a combination of idle and high RPM operation. (avoid prolonged high RPM rev it good at least once or twice per minute)
- Allow the engine to cool
- Ride for 15 minutes maximum, avoiding prolonged high RPM operation.
- Cool and inspect bike for loose fasteners.
- Next ½ hour of operation, avoid prolonged operation at Wide Open Throttle.
- After 1 hour of operation
    - Check for loose bolts and nuts on the bike and retighten as necessary (proper toque values are listed under Specifications).
    - Clean the carburetor bowl.
    - Change the transmission / clutch lubricant.
    - Replace the fuel filter.
- After 8 hours of operation have a Certified Cobra Mechanic change the shock oils.
- Your bike is now ready for the highest level of competition!

Starting Procedure

Before starting the machine inspect the following:

- Insure that the fuel tank contains an adequate volume of fuel / oil mixture to complete the distance required. (93 octane pump gas with Cobra's specially formulated *Cobra Venom 2-cycle Race Oil*)
- Check for proper tire pressure in both tires.
- Observe the chain tension and adjust if necessary.
- Observe the coolant level and fill if necessary.
- Verify that the chain rollers do not have improper wear.
- Inspect the frame, for;
  - Cracks in the metal.
  - Cracking paint which might indicate overly stressed material.
- Verify that the handlebars are tight.
- Check the throttle for;
  - Smooth operation and sound closing.
  - Frayed strands of the cable inside the throttle housing.
- Check for loose bolts and nuts, and re-torque as necessary.
- Verify that the air filter is clean and properly saturated with oil.
- Turn the fuel on by rotating the fuel petcock knob to the vertically downward position (reserve position is horizontally inward).

CAUTION:
For best results from your Cobra ATV use only the recommended fuels. Testing has shown that most 'race' fuels actually degrade performance.

When your pre-ride inspection is complete the bike may be started. For a cold engine follow this procedure.

1. Reaching down to the carburetor, on the left side of the bike, push down on the black choke lever.
2. Kick start the engine.
3. Rev the engine in short spurts, turning the throttle no more than 1/4 open until the engine will run without the choke.
4. Verify a functional engine shut-off switch by shutting off the engine.
5. Restart the engine and proceed with riding when the engine is sufficiently warm (i.e. the side of the cylinder is warm to touch).

CAUTION:
Never rev an engine full throttle when it's cold or slightly warmed up. Cobra recommends that you tell your child to take it easy the first couple of minutes in practice until the engine comes up to full operating temperature. Make sure your engine is properly warmed up before racing.

General Tips

1. Always wear a **helmet** and other **protective riding gear**.
2. Cobra recommends that you tell your child to take it easy the first couple of minutes in practice until the engine comes up to full **operating temperature**.
3. Make sure your riders' foot is not resting on the **rear brake** pedal while they are riding.
4. Evaluate the bikes **jetting** only after it has been warmed up to race temperatures.
5. A **properly maintained** machine is safer, faster, and more fun to ride.
6. When **washing the bike**, be careful to not directly aim the hose at the air filter area.
7. Keep steering stops adjusted so that the wheels do not scrape on the A-arms
8. Mare sure that there is adequate free play in both the **front lever and rear brake pedal**.
9. The appearance of black 'stuff' in the coolant is likely due to a head seal being compromised. Replace the head seals and keep an eye on the coolant.
10. Your Cobra ATV has a 10 digit VIN (Vehicle Identification Number). The first three digits indicate the model and the seventh indicates the model year (MY).
    a. Example, ECXxxx5xxx is a 2005 MY ECX70.

Maintenance

Schedule & Tips

It is important that you adhere to this maintenance schedule so as to promote the longevity of your Cobra Motorcycle.

- Between each ride
  - Inspect the fuel filter for contaminates.
  - Check the air filter (clean and re-oil as necessary).
  - Insure the smooth operation of the throttle cable (throttle soundly 'clacks' shut).
  - Check for frayed strands of the throttle cable inside the throttle housing and replace if necessary.
  - Check for adequate tire pressures and adjust if necessary.
  - Check all nuts and bolts for proper torque and re-torque if necessary.
  - Spray all moving parts with WD40 or other light oil.
  - Check drive chain for
    - Proper tension and adjust if necessary.
    - Adequate lubrication and lubricate if necessary.
  - Check the frame for cracks in the metal or cracks in the paint that might indicate that the metal has been stressed beyond it's safe limits. Replace or get properly rewelded as necessary.
- Every 2 hours of operation
  - Replace the transmission oil.
- Every 10 hours of operation
  - Have the shock oil replaced by a Certified Cobra Mechanic.

CAUTION:

1. If you ever need to weld anything on the bike, disconnect the spark plug cap, unplug the ignition, disconnect the kill switch, scrape the paint bare near the area to be welded and put the ground clamp as close to the area to be welded as possible.

⚠ WARNING

Be sure the fuel tank and carburetor have been removed and safely located away from the welding process.

2. The frame is a low carbon alloy tubing and it is important to weld it with the proper rod and heat settings set as light as possible. Cobra recommends replacing the frame with a new one if the old one becomes damaged.

M1: Replacing Transmission Lubricant

Tools needed:

- 530 ml (18 oz) 85W 90 gear lubricant
- large flat blade screwdriver
- 13 mm wrench or socket

Procedure:

1. Begin this procedure with a bike that has been ridden more than 5 minutes but less than 10 minutes. It is desired to have the engine warm enough so that the oil 'runny' but not so hot that there is risk of being burned by the engine or the oil.

⚠ WARNING

Hot oil and hot components on the motorcycle may cause burns.

2. Lean bike against something or set on stand with oil drain hole.
3. Using the 13 mm wrench, remove the oil drain bolt located on the right side of the engine (figure 1).

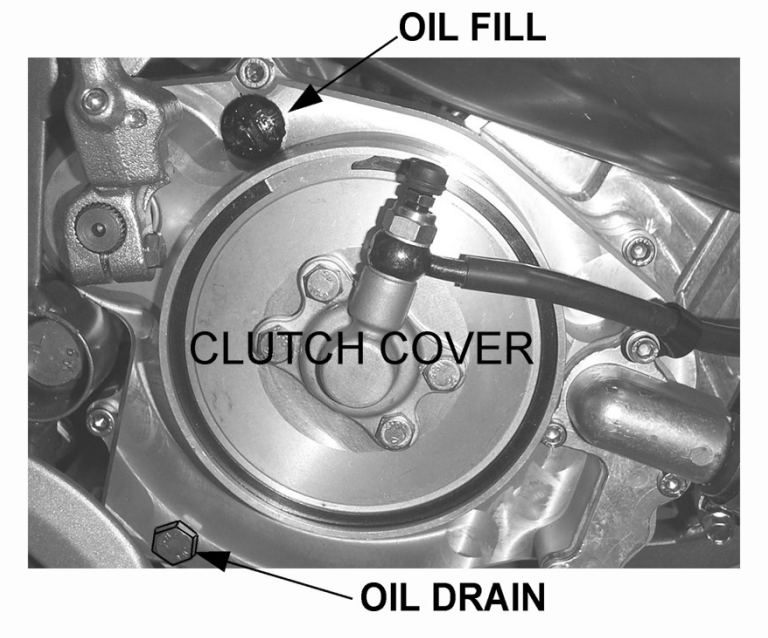


Figure 1

4. After it has drained, reinstall the drain screw with gasket.
5. Remove the oil fill plug and pour in 530 ml (18 oz) 85W 90 gear lubricant.

NOTE: Leaning the bike over onto it's left hand side will facilitate the oil filling procedure.

6. Reapply the oil fill screw, securely, being sure the gasket is in place.

M2: Chain adjustment

Tools needed:

- 13 mm wrench or socket

- 5mm pin (Screw driver or hex key will do)

Procedure:

1. Loosen the eccentric housing on the swingarm with two 13mm tools.
2. Stick the 5mm pin through the sprocket into the eccentric hole.
3. Push the quad forward or backward, turning the wheels (i.e. the sprocket) in the direction shown until the desired chain tension is achieved (see fig. 2).

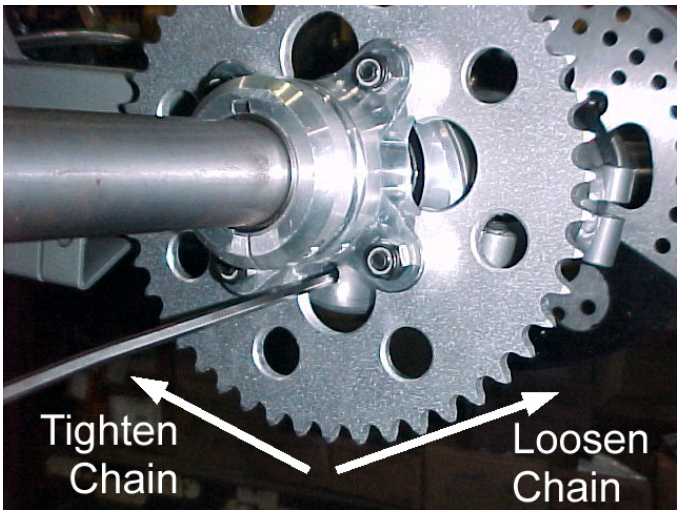


Figure 1

NOTE:
The location of the pin hole is the 'fattest' part of the eccentric. Restated, if the pin hole is all the way forward, the chain is as tight as possible, and if the pin hole is all the way back, the chain is as loose as possible.

CAUTION:
Proper chain tension allows no less than ½" (12mm) free play through out the range of rear suspension travel.

NOTE:
It may be handy to set backwards on the seat and feel the chain as you weight, and unweight, seat to feel for chain free play.

4. After achieving the proper adjustment retighten the two eccentric pinch bolts.

CAUTION:
Be sure to remove the pin from the eccentric before riding.

M3: Air Filter Cleaning

This Cobra Motorcycle comes with a unique air filter / air boot unit designed to facilitate motorcycle service.

Tools recommended for air filter maintenance:

- Srewdriver
- Foam filter oil

Procedure

1. Removed the filter from the carburetor.
2. Clean the filter with cleaning solvent and then again with hot soapy water.
3. Allow it to dry thoroughly.
4. Saturate with foam filter oil and remove excess.

⚠ WARNING

Do not clean the air filter with gasoline or other highly volatile petroleum product. Cleaning solvent, diesel fuel, or kerosene would be preferred but caution should still be taken.

NOTE:
The biodegradable air filter oils, greases, and cleansers work acceptably with this Cobra Motorcycle.

NOTE:
It is very important to keep the air filter clean and properly oiled with high quality water-resistant foam filter oil. It's very important to oil your filter consistently each time because varied amounts of oil will change your carburetor jetting.

NOTE:
Make sure you change or clean your filter after each moto or significant ride. We recommend carrying three or more filters in your toolbox.

- 1 for practice
- 1 for each moto

CAUTION:
Dusty conditions will require more frequent cleaning.

M4: Front end

Toe in adjustment

Riders and parents have provided feedback that they prefer the toe in adjustment between ½" (12mm) out to ½" (12mm) in. This is set by adjusting the length of the tie rod assemblies. See figure 3 for direction of turn.

⚠ WARNING

Adjust both wheels so that they have the same amount of toe in.

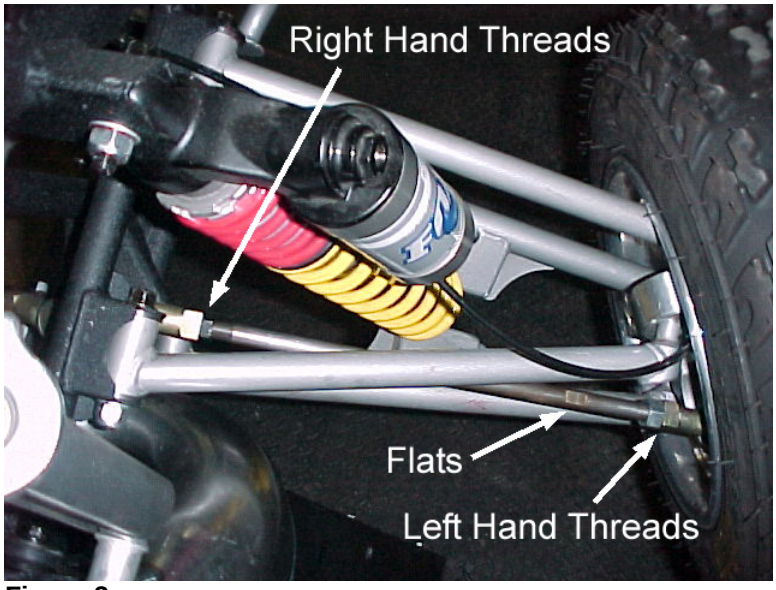


Figure 3

Steering

The unique Cobra front end will exhibit some free play from the factory and that the seals (it that's what you want to call them) will fall out after the first ride. We have found that this causes no adverse effects and that the looseness does not get significantly worse as long as the bearings are sprayed with a spray lubricant (WD40 or similar) upon each ride.

Parts

Parts – Air Inlet System

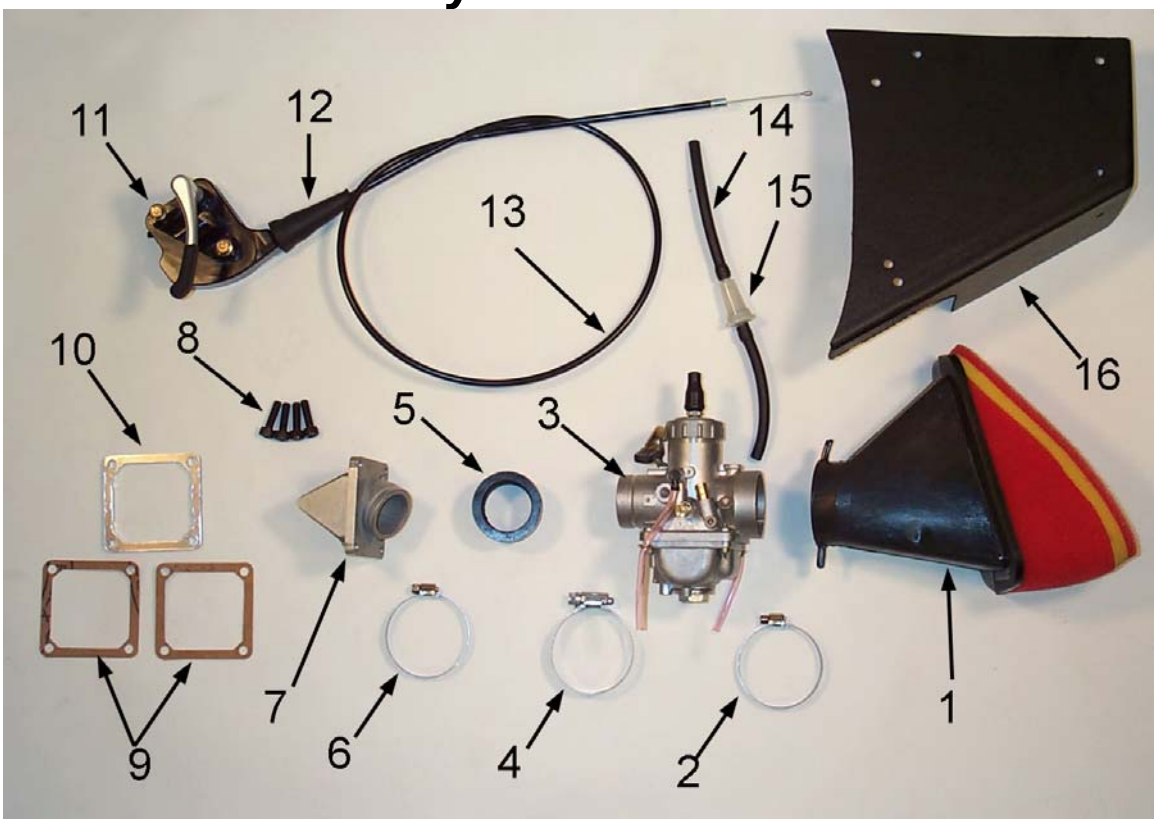


Figure 4

Coolant System		
REF #	PART #	DESCRIPTION
1	RCDC0001	AIR FILTER ASSEMBLY
2	MCKGHO03	HOSE CLAMP – FILTER TO CARB
3	RAEX0026	CARBURETOR 26MM MIKUNI VM
4	MCMUCL10	HOSE CLAMP – CARB TO INLET BOOT (WIDE)
5	ECEX0012	INLET BOOT
6	MCMUCL03	HOSE CLAMP – BOOT TO REED MANIFOLD (NARROW)
7	ECDC0094	INLET MANIFOLD WITH REED ASSEMBLY
		REEDS - REMPLACMENT STOCK
	ECDCRD15	REEDS – SOFT
8	HCBC0602	M6 X 20 SOCKET HEAD CAP SCREW (4 REQ'D)
9	ECDC0093	GASKET – INLET (2 PLACES)
10	RCMU0001	SPACER – REED
11	FCEX0016	THROTTLE, QUAD THUMB STYLE
12	FCPW0004	THROTTLE CABLE END GROMMET
13	RCEX0001	CABLE - THROTTLE
14	FCMU0027	FUEL LINE 5 INCH
15	FCDC0093	FILTER, FUEL
16	RCEX0019	COVER, AIR FILTER

Parts – Bars and Steering

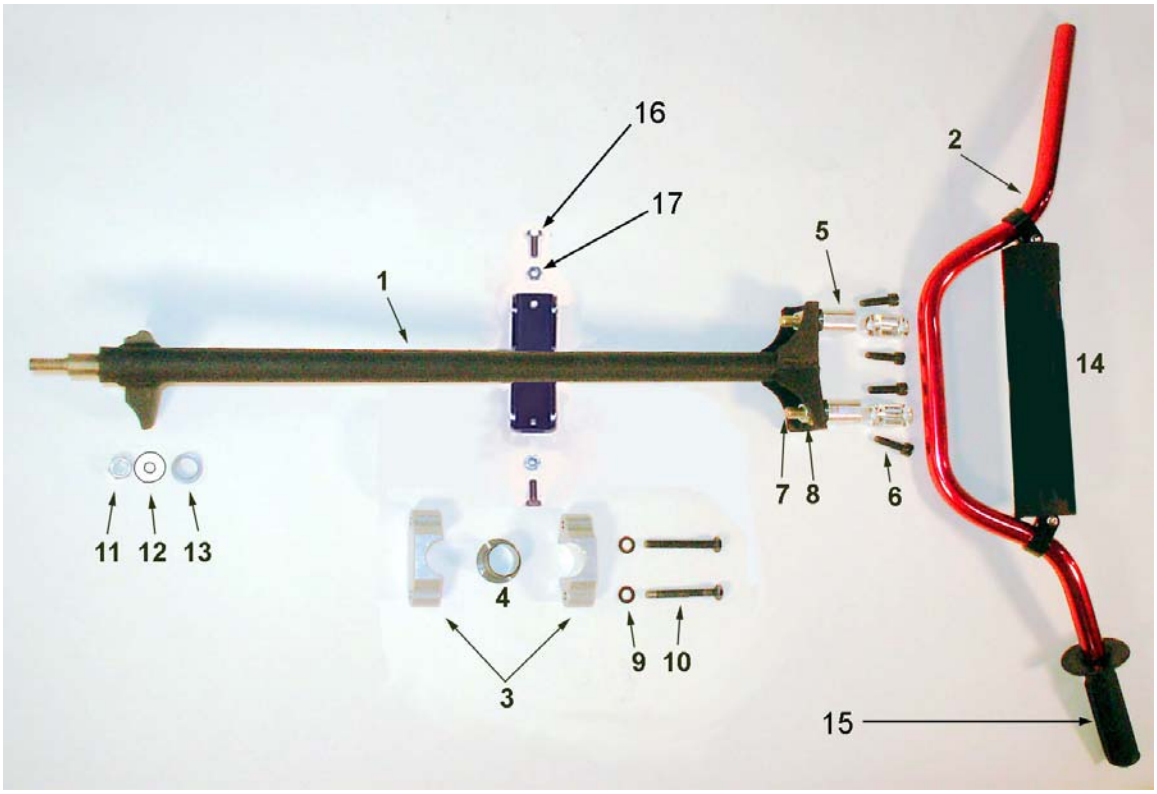


Figure 5

Bars and Steering		
REF #	PART #	DESCRIPTION
1	FAEX0020	STEERING STEM
2	TCEX0009	HANDLEBAR - QUAD
3	FCEX0011	STEERING STEM BLOCK (2 REQ'D)
4	MCEXBR07	STEERING STEM BUSHING – SPLIT
NOT SHOWN	ZCEX0002	O'RING – STEERING STEM SEAL (2 REQ'D)
NOT SHOWN	HCBB0403	4MM X 8 BUTTON HEAD SCREW (2 REQ'D)
5	TCMU0404	BAR MOUNT KIT, SHORT – REPLACEMENT (2 REQ'D)
NOT SHOWN	TCMU0403	BAR MOUNT KIT, TALL – OPTIONAL (2 REQ'D)
6	HCBC0806	SOCKET HEAD CAP SCREW M8 X 30 (4 REQ'D)
7	HCBC1001	M10X45 SOCKET HEAD CAP SCREW (2 REQ'D)
8	HCNL1001	M10 LOCK NUT (2 REQ'D)
9	HCWF0801	8MM FLAT WASHER
10	HCBH0810	8MM X 65 HEX HEAD BOLT (2 REQ'D)
11	HCNL1001	10MM LOCK NUT
12	HCWF0010	10MM FLAT WASHER
13	MCEXBR04	STEM PIVOT BUSHING - LOWER
14	MCMU0001	CROSS BAR PAD
15	TCEX0013	GRIPS SET OF TWO
16	HCBH0601	6MM X 16 HEX HEAD BOLT (2 REQ'D)
17	HCNS0601	6MM NUT (2 REQ'D)

Parts – Bumper, Nerf & Grab Bars

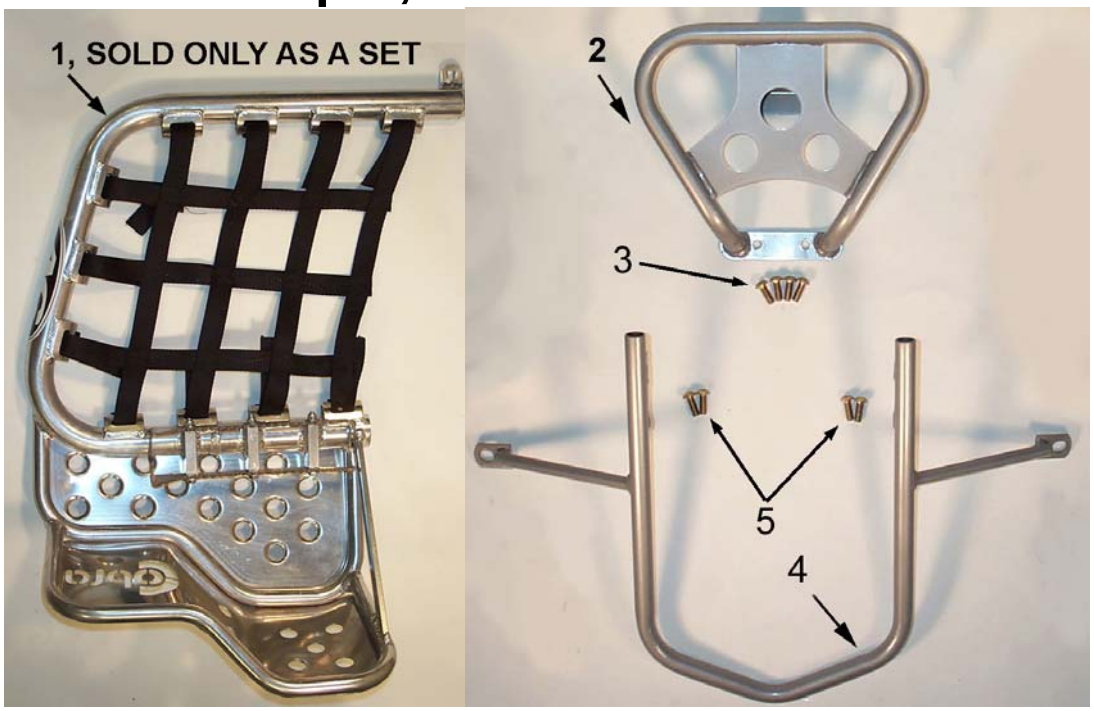


Figure 6

BODY PROTECTION		
REF #	PART #	DESCRIPTION
1	FCEX0024	NERF BARS (LEFT & RIGHT)
NOT SHOWN	HCBH0808	8MM X 30 HEX HEAD BOLT (FRONT MOUNT, 2 PLACES)
NOT SHOWN	HCBH0809	8MM X 50 HEX HEAD BOLT (REAR MOUNT, 2 PLACES)
NOT SHOWN	HCWF0801	8MM FLAT WASHER (2 REQ'D)
NOT SHOWN	HCNL0801	8MM LOCKNUT (2 REQ'D)
2	FAEX0099	FRONT BUMPER
3	HCBB0802	M8 X 20 BUTTON HEAD BOLT (4 REQ'D)
4	FCEX0003	GRAB BAR
5	HCBC0820	M8 X 20 SOCKET HEAD CAP SCREW (4 REQ'D)

Parts – Carburetor

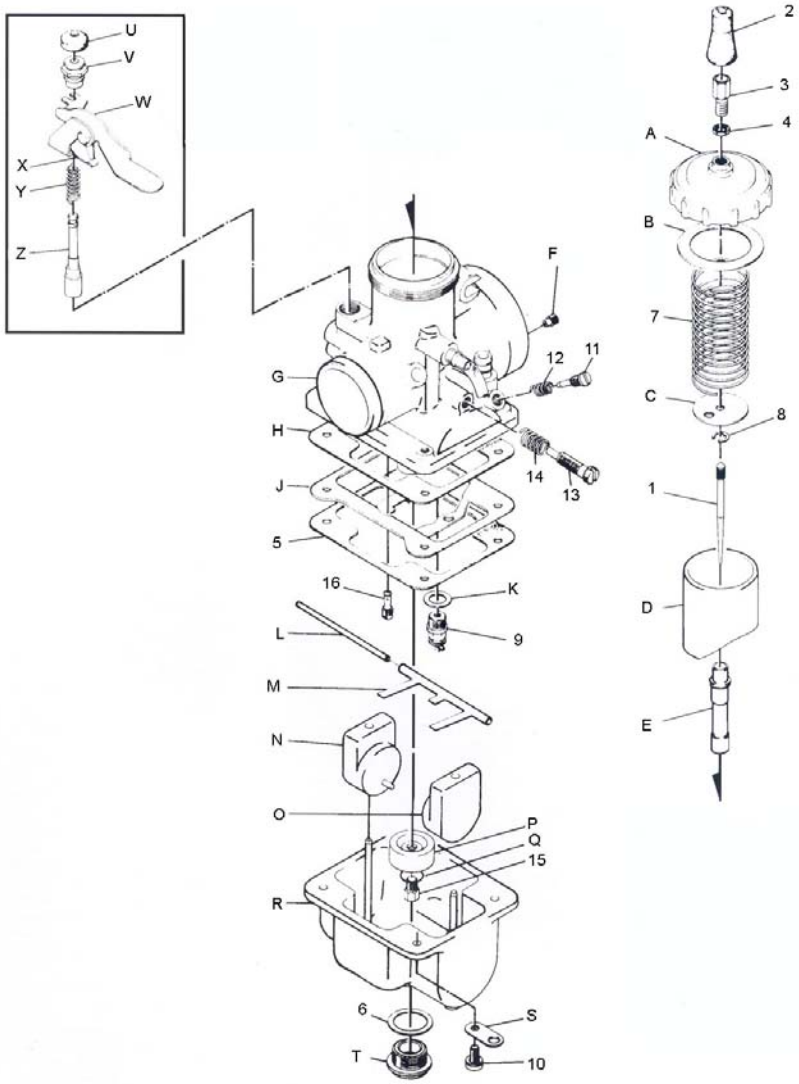


Figure 7

Carburetor accessories		
REF #	PART #	DESCRIPTION
	RAEX0026	CARBURETOR, 26MM MIKUNI VM
	RCEX0001	CABLE, THROTTLE
1	RCEX0017	JET NEEDLE (5F21) STANDARD
	RCEX0018	JET NEEDLE (5F3)
2	RCEX0004	RUBBER, THROTTLE CABLE ADJUSTER
3	RCEX0005	ADJUSTER, THROTTLE CABLE
4	RCEX0006	LOCK NUT, THROTTLE CABLE ADJUSTER
5	RCEX0007	GASKET, CARBURETOR BOWL
6	RCEX0008	PLUG WASHER, MAIN JET
7	RCEX0009	SPRING, THROTTLE VALVE
8	RCEX0010	E-CLIP, NEEDLE
9	RCEX0011	NEEDLE VALVE, SEAT ASSEMBLY
10	RCEX0012	SCREW, FLOAT BOWL
11	RCEX0013	SCREW, AIR ADJUSTING
12	RCEX0014	SPRING, AIR ADJUSTING SCREW
13	RCEX0015	SCREW, IDLE ADJUSTING
14	RCEX0016	SPRING, IDLE ADJUSTING SCREW
15	RCMU0xxx	MAIN JET, xxx DENOTES SIZE (170, 175, 180, 185, 190, 195, 200, 205, 210)
16	RCEX00xx	PILOT JET, xx DENOTES SIZE

Parts – Clutch Actuation

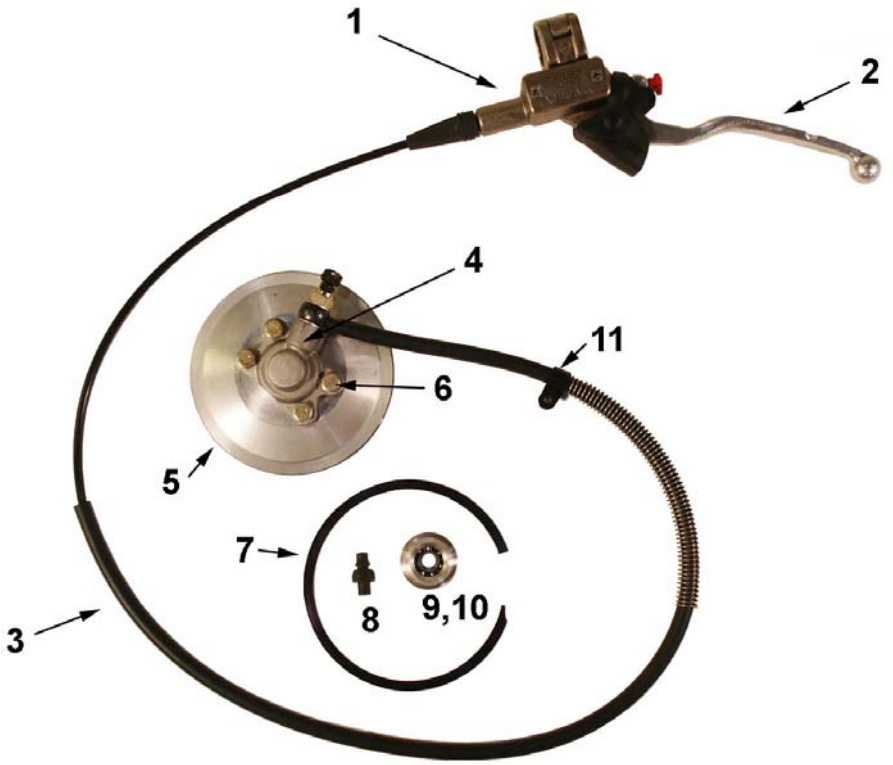


Figure 8

Clutch Actuation		
REF #	PART #	DESCRIPTION
	CADC0001	CLUTCH ACUTATOR ASSEMBLY (Lever, Master Cyl., Line, Slave Cyl.)
1	BCEX0005	MASTER CYLINDER
2	CCDC0001	CLUTCH LEVER
3	FCEX0020	CLUTCH LINE
4	CCDC0002	CLUTCH SLAVE CYLINDER
5	ECDC0074	CLUTCH CAP
6		M6 x 16 Bolt
7	ECDC0082	SNAP RING – CLUTCH CAP
8	ECDC0020	CLUTCH PUSH ROD
9	ECDC0018	CLUTCH THROW-OUT BEARING
10	ECDC0019	CLUTCH BEARING SEAT
11	HCCC0002	CABLE CLAMP
NOT SHOWN	ZCDCOR05	CLUTCH CAP O-RING
NOT SHOWN	ZCDCOR04	SLAVE CYLINDER O-RING

Parts – Coolant System

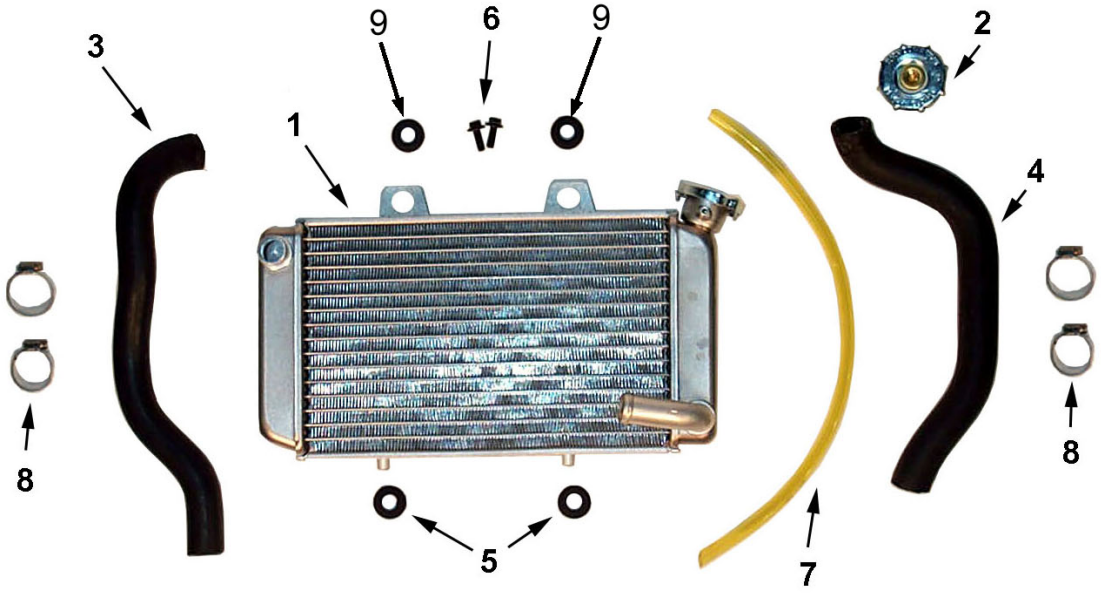


Figure 9

Coolant System		
REF #	PART #	DESCRIPTION
1	FCEX0001	RADIATOR WITH CAP
2	FCMU0047	RADIATOR CAP (2 ears or ribbed)
3	ECEX0010	RADIATOR HOSE, TOP
4	ECEX0011	RADIATOR HOSE, BOTTOM
5	MCEXGR01	GROMMET, BOTTOM RAD MOUNT (2 REQ'D)
NOT SHOWN	FCEX0026	PAD, RADIATOR (2 REQ'D)
6	HCBF0616	FLANGE HEAD BOLT M6X16 (2 REQ'D)
7	ECHA0002	RADIATOR VENT HOSE
NOT SHOWN	MCMUCL05	HOSE CLAMP, VENT HOSE
8	MCMUCL07	HOSE CLAMP (4 REQ'D)
9	FCEXGR01	GROMMET, TOP RAD MOUNT (2 REQ'D)
NOT SHOWN	MCMUGR04	GROMMET USED ALONG WITH TOP RAD MOUNT (4 PER)

Parts – Electrical System

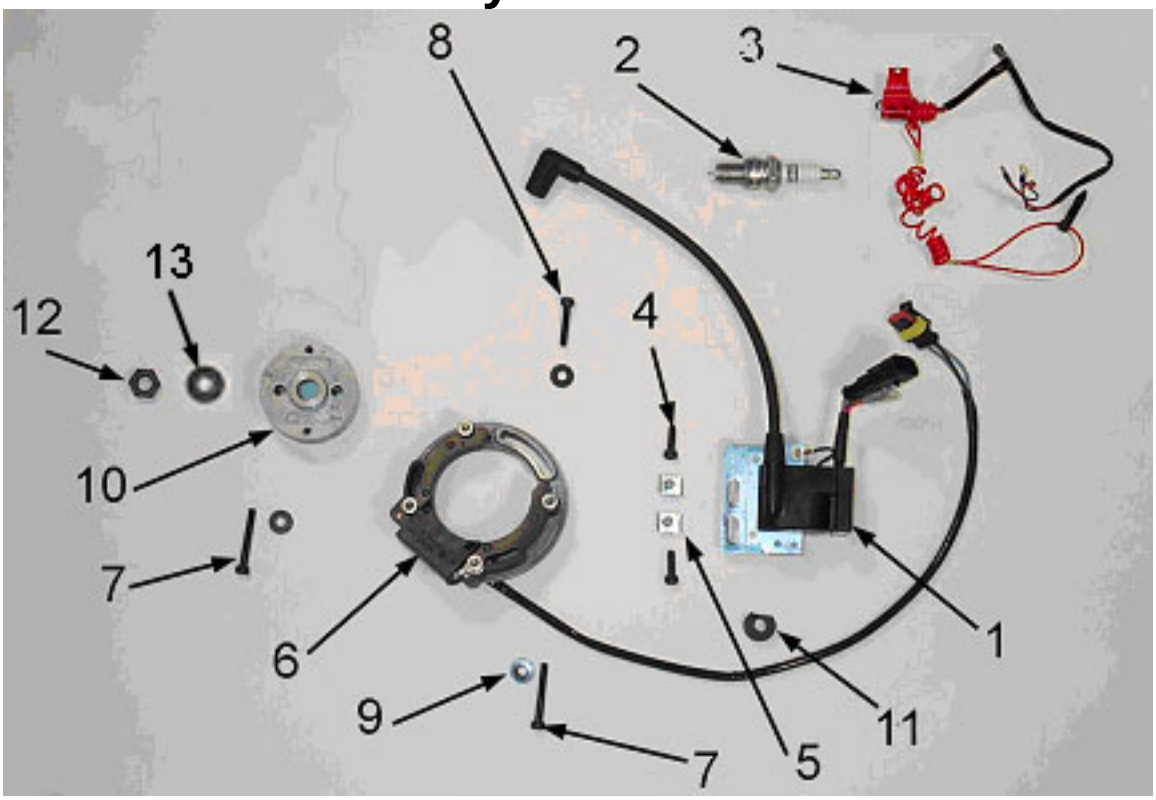


Figure 10

Electrical System		
REF #	PART #	DESCRIPTION
1	IAMU0005	COIL W/SPARK PLUG CAP (3 WIRE)
2	ECMU0065	SPARK PLUG, CHAMPION (8339-1)
2H	ECMU0067	OPTIONAL HOTTER PLUG (8332-1)
2C	ECMU0066	OPTIONAL COLDER PLUG (8904-1)
3	IKEX0001	IGNITION KILL TETHER
4	HCBC0516	SCREW, M5 X 16 (2 PER)
5	HCCN0000	5MM CLIP NUT (2 PER)
6	ICMU0018	STATOR 3 WIRE ANALOG
7	HCBC0535	5mm x 35 SOCKET HEAD CAP SCREW (2 REQ'D)
8	HCBC0525	5mm x 25 SOCKET HEAD CAP SCREW
9	HCWF0504	WASHER FOR STATOR (3 REQ'D)
10	ICMU0006	ROTOR
11	MCKGGR01	GROMMET - STATOR LEAD
12	HCNS1001	NUT 10MM
NOT SHOWN	ICMU0012	WOODRUFF KEY
NOT SHOWN	ECDC0085	IGNITION COVER
NOT SHOWN	ZCDC0004	GASKET, IGNITION COVER

Parts – Engine Clutch

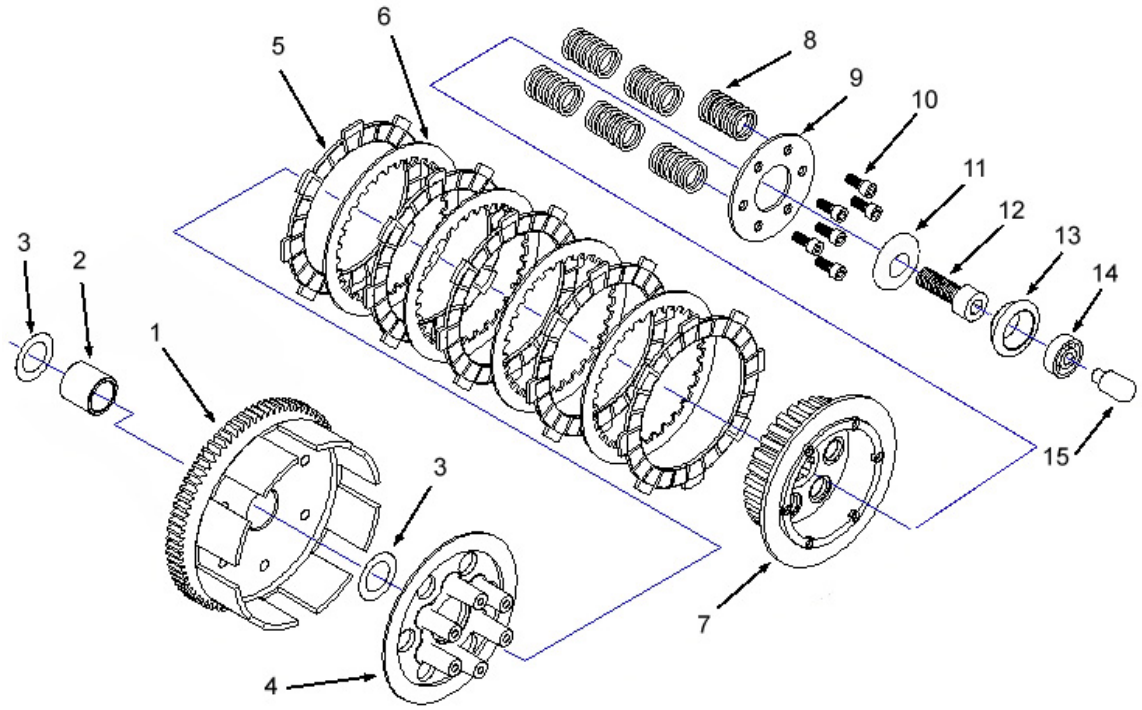


Figure 11

Clutch components		
REF. #	PART #	DESCRIPTION
1	EAEX0003	CLUTCH BASKET ASSEMBLY
2	ECDC0064	CLUTCH BUSHING – INNER / STEEL
NOT SHOWN	ECDC0167	CLUTCH BUSHING - OUTER / BRONZE
3	ECDC0063	CLUTCH WASHER-DC65 (2 PLACES)
4	ECDC0066	CLUTCH PRESSURE PLATE
5	ECDC0068	CLUTCH DISC-FRICTION – (5 REQ'D)
6	ECDC0067	CLUTCH DISC-STEEL – (4 REQ'D)
7	ECDC0069	CLUTCH HUB
8	ECDC0070	SPRING, CLUTCH – (6 REQ'D)
9	ECDC0224	PLATE, CLUTCH SPRING
10	HCBC0525	5X25 SOCKET HEAD CAP SCREW (6 REQ'D)
11	ECDC0030	SPRING WASHER – CLUTCH
12	HCBC1035	10MM X 35 SHCS BLACK OXIDE
	HCBF1035	10MM X 35 FLANGE HEAD BOLT
13	ECDC0019	CLUTCH BEARING SEAT
14	ECDC0018	BEARING,CLUTCH THROW OUT
15	ECDC0020	CLUTCH PUSH ROD

Parts – Engine – Clutch / Kick Cover

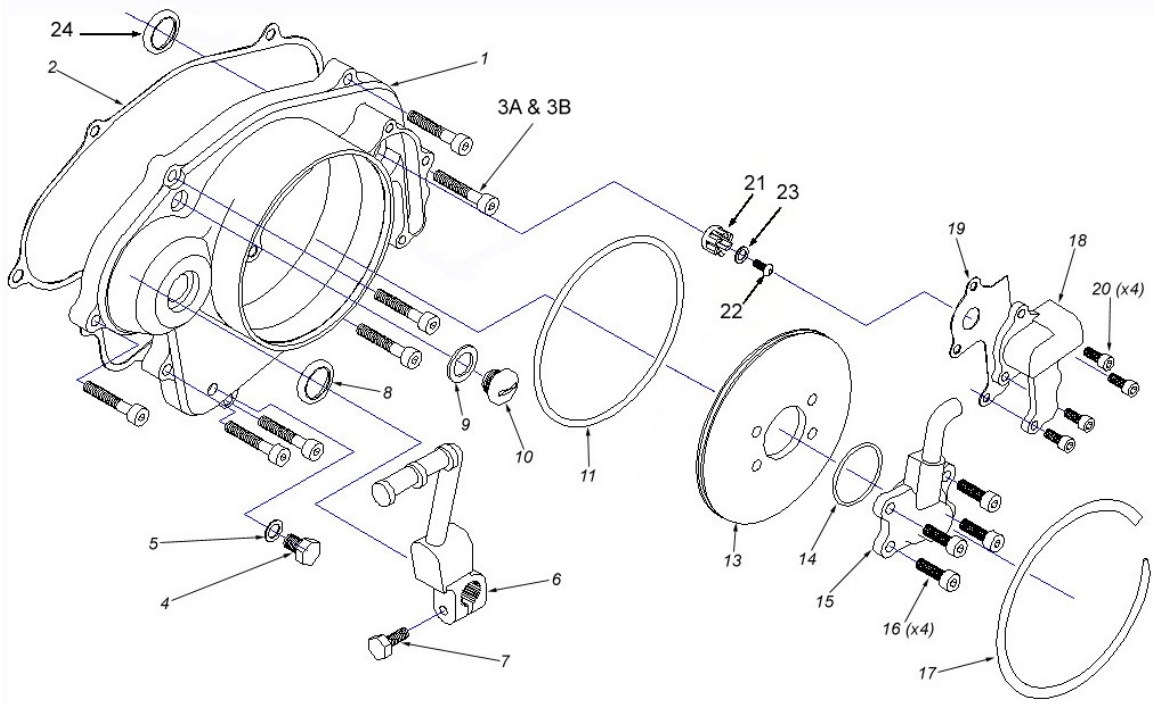


Figure 12

Clutch / kick cover components		
REF. #	PART #	DESCRIPTION
1	ECDC0176	CLUTCH COVER-DC65-MACHINED
2	ZCDC0002	GASKET-CLUTCHCOVER-DC65
3A	HCBC0625	6X25 SOCKET HEAD CAP SCREW (5 REQ'D)
3B	HCBC0604	6X35 SOCKET HEAD CAP SCREW (2 REQ'D)
4	HCBH0805	M8X12 OIL DRAIN SCREW
5	HCWC0000	GASKET 10MM COPPER WASHER
6	ECDC0046	KICKSTARTER LEVER-DC65
7	HCBH0602	SCREW M6X25 HEX HEAD
8	ECDC0078	SEAL,KICKSTARTER DC65
9	ZCMU0001	GASKET-OIL FILL PLUG
10	ECMU0037	OIL FILL PLUG
11	ZCDCOR05	ORING-CLUTCH CAP-DC65
13	ECDC0074	CLUTCH CAP, DC65, FINISHED
14	ZCDCOR04	ORING,CLUTCH SLAVE CYLINDER
NOT SHOWN	CCEX0009	BALL, CLUTCH ACTUATOR
15	CCDC0002	SLAVE CYLINDER-DC65
16	HCBC0601	6X16 SOCKET HEAD CAP SCREW
17	ECDC0082	SNAP RING-CLUTCH CAP
18	ECDC0180	IMPELLER COVER-DRILLED-DC65
19	ZCDC0003	GASKET-IMPELLER COVER
20	HCBC0516	5x16CS-IMPELLER COVER-DC65
21	ECDC0075	IMPELLER, WATERPUMP
22	HCBC1012	10-32X1/2 STAINLESS SHCS
23	HCWF0501	5MM FLAT WASHER
24	ECKG0074	SEAL, WATERPUMP

Parts - Engine - Ignition Side

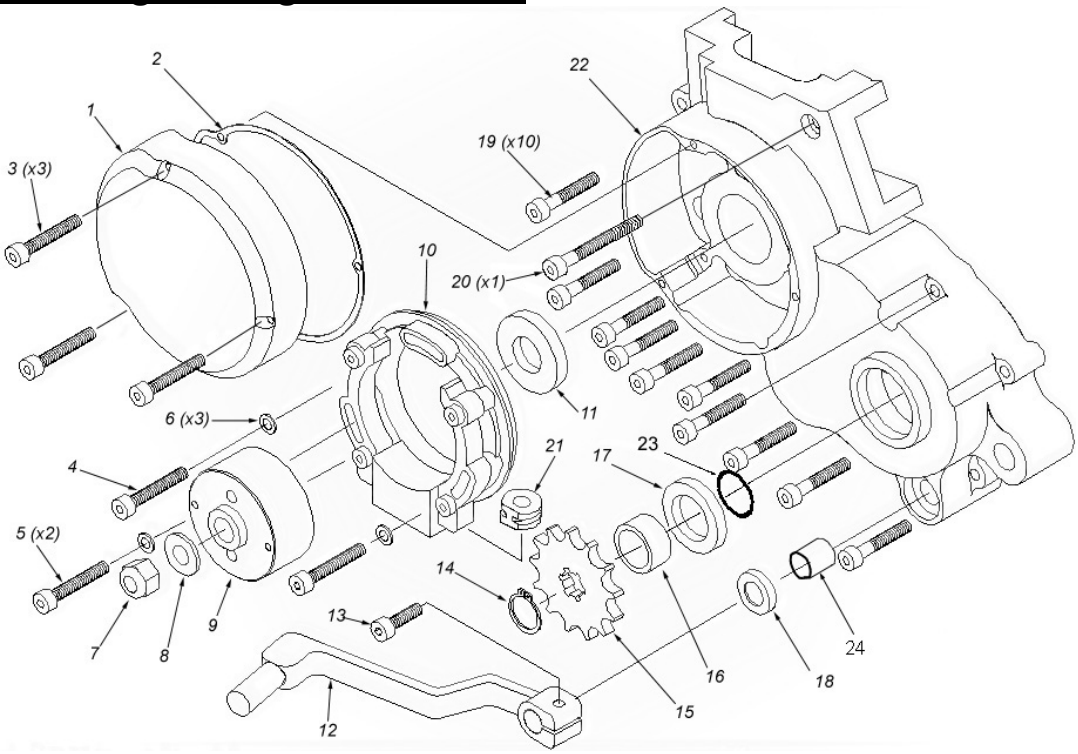


Figure 13

Ignition side engine components		
REF. #	PART #	DESCRIPTION
1	ECDC0085	IGNITION COVER-DC65
2	ZCDC0004	GASKET-IGNITION COVER
3	HCBC0402	4X35 SOCKET HEAD CAP SCREW (3 REQ'D)
4	HCBC0525	5X25 SOCKET HEAD CAP SCREW
5	HCBC0535	5X35 SOCKET HEAD CAP SCREW (2 REQ'D)
6	HCWF0501	WASHER FLAT 5MM
7	HCNS1001	NUT M10
8	HCWF0038	3/8 FLAT WASHER
9	ICMU0006	ROTOR
10	ICMU0018	STATOR – 3 WIRE
11	ECDC0024	SEAL, CRANKSHAFT DC65
12	ECDC0087	SHIFTER LEVER - DC65
13	HCBH0620	M6 X 20 HEX HEAD BOLT
14	ECKGSR03	SNAP RING-OUTPUT-COBRA
15	PCKG00xx	SPROCKET xx denotes number of teeth
16	ECDC0009	SPACER,SPROCKET
17	ECDC0025	SEAL,OUTPUT DC65
18	ECDC0026	SEAL,SHIFTER DC65
19	HCBC0604	SCREW M6X35, SOCKET HEAD CAP (10 REQ'D)
20	HCBC0606	SCREW M6X45, SOCKET HEAD CAP
21	MCKGGR00	GROMMET-ENGINE CASE-COBRA-STAT
22	ECDC0128	CASE,LEFT,DC65-MACHINED
23	ZCKGB017	O-RING, SPROCKET SPACER
24	ECEX0008	BUSHING, SHIFTER SHAFT

Parts - Engine – Kick Mechanism

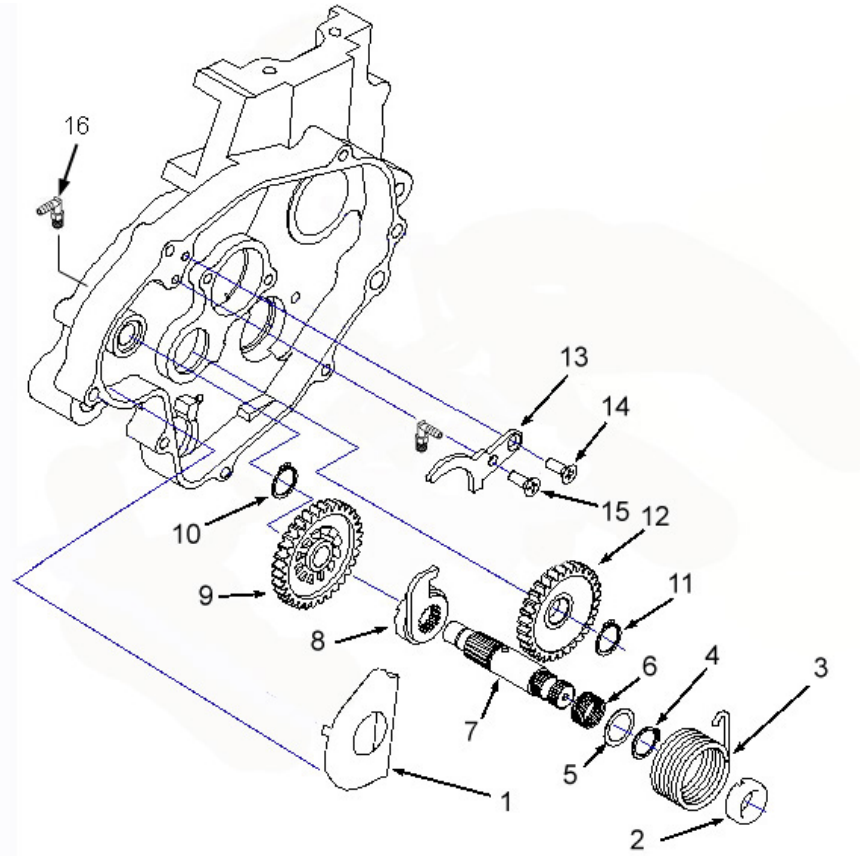


Figure 14

Kick Mechanism		
REF. #	PART #	DESCRIPTION
1	ECDC0107	SPLASH GUARD
2	ECDC0111	SPACER, KICK START SHAFT
3	ECDC0040	SPRING, KICKSTART RETURN
4	ECDC0036	SNAP RING, EXTERNAL 16MM
5	ECDC0043	WASHER, KICKSTART BACKUP
6	ECDC0042	SPRING, KICKSTART RAMP
7	ECDC0034	SHAFT, KICK START
8	ECDC0038	RAMP GEAR, KICKSTART
9	ECDC0033	GEAR, KICKSTART
10	ECDC0035	SNAP RING, EXTERNAL 12MM
11	ECDC0037	SNAP RING, EXTERNAL 15MM
12	ECDC0032	GEAR, KICK START IDLE
13	ECDC0039	RAMP, KICSTART
14	ECDC0060	6MM X 16 PHILLIPS FLAT HEAD SCREW
15	HCBB1612	6MM X 12 MM BUTTON HEAD BLACK OXIDE
16	ECDC0105	ELBOW, VENT HOSE
NOT SHOWN	ECDC0106	VENT HOSE

Parts – Engine – Shift Mechanism

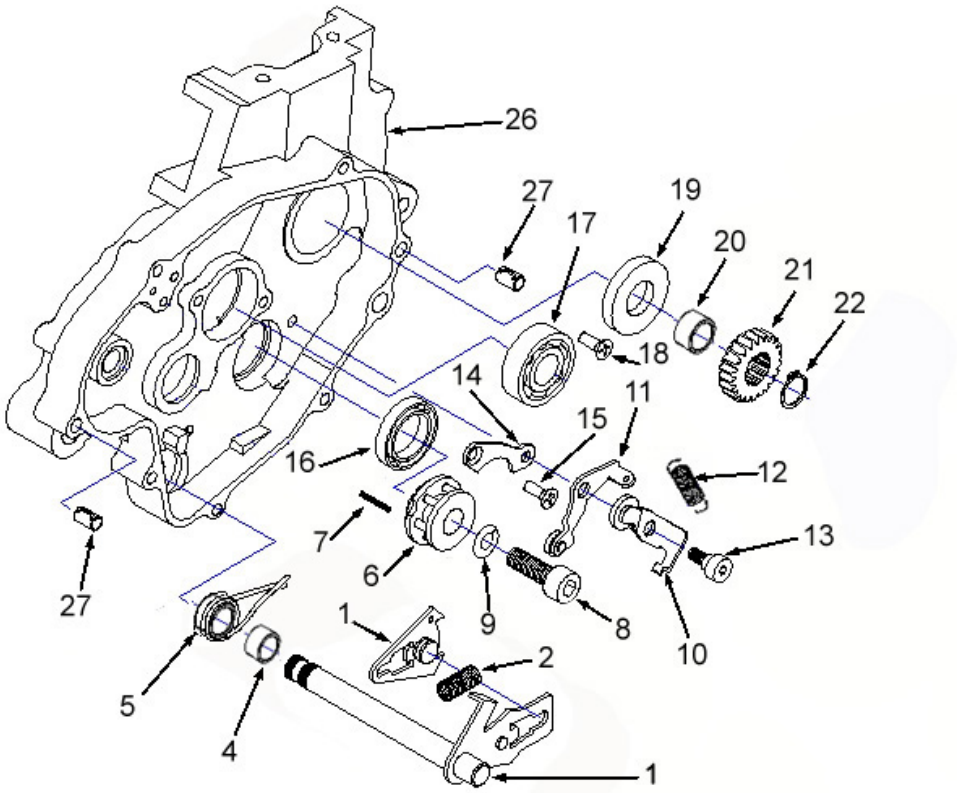


Figure 15

Clutch components		
REF. #	PART #	DESCRIPTION
1	EADC0154	SHIFTER SHAFT (2 COMPONENTS) W/SPRING
2	ECDC0055	SPRING - SHIFTER SHAFT
4	ECDC0110	SPACER, CENTERING SPRING
5	ECDC0099	SPRING, CENTERING
6	EADC0152	SHIFT CASSETTE ASSEMBLY
7	ECDC0053	DOWEL – SHIFT DRUM INDEX
8	HCBC1825	8MM X 25 SHCS BLACK OXIDE
9	HCWL0802	8MM LOCKWASHER, HI COLLAR
10	ECDC0057	LEVER NEUTRAL POSITIONING
11	ECDC0058	LEVER, DRIVE GEAR POSITIONING
12	ECDC0098	SPRING, CHANGE LEVER
13	ECDC0059	BOLT SHOULDER
14	ECDC0056	BEARING RETAINER PLATE
15	ECDC0060	6MM X 16 FLAT HEAD PHILLIPS SCREW
16	ECDC0022	BEARING, SHIFT DRUM
17	ECMU0216	BEARING, PRIMARY SHAFT CLUTCH SIDE
18	HCBB1612	6MM X 12 BUTTON HEAD BLACK OXIDE
19	ECDC0024	SEAL, CRANKSHAFT
20	ECDC0112	SPACER, CRANK DRIVE GEAR
21	ECDC0073	CRANK DRIVE GEAR
22	ECDC0036	SNAP RING, EXT 16MM
26	ECDC0129	ENGINE CASE, RIGHT MACHINED
27	ECDC0031	DOWEL, HOLLOW (2 PLACES)

Parts – Engine – Top End

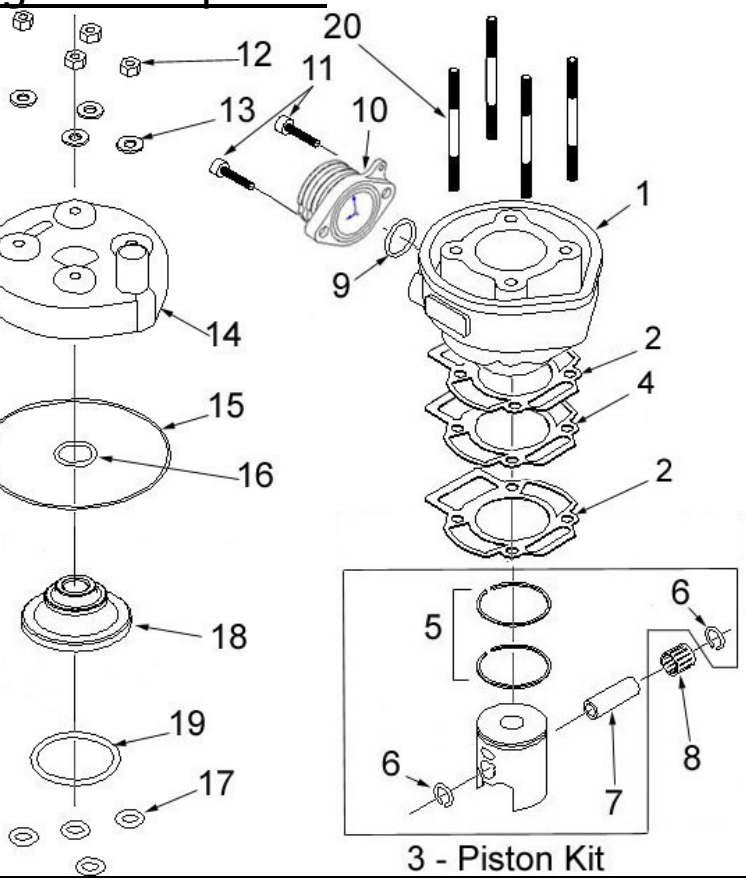


Figure 16

Engine – Top End		
REF #	PART #	DESCRIPTION
1	ECEX0001	CYLINDER
2	ZCKG0501	BASE GASKET
3	ECMU0084	PISTON KIT
5	ECEX0005	PISTON RINGS (2 PER SET)
6	ECMUSR00	SNAP RING FOR PISTON (2 REQ'D)
7	ECDC0090	WRIST PIN
8	ECDC0061	BEARING, WRIST PIN
9	ZCMUOR07	O-RING, EXHAUST FLANGE
10	ECMU0074	EXHAUST FLANGE
NOT SHOWN	ZCMOTE11	O-RINGS – PIPE TO FLANGE (2 REQ'D)
11	HCBC0612	M6X20, EXHAUST FLANGE SCREW (2 REQ'D)
12	HCNS0702	7MM NUT – HIGH STRENGTH
13	HCWS1401	FLAT WASHER - HARDENED
14	ECEX0014	CYLINDER HEAD OUTER
15	ZCMUOR02	O-RING, CYLINDER HEAD LARGE
16	ZCMUV024	O-RING CYLINDER HEAD SMALL
17	ZCMUOR10	O-RING CYLINDER STUD (4 REQ'D)
18	ECEX0004	CYLINDER HEAD, INSERT
19	ZCMUV032	O-RING CYLINDER HEAD MEDIUM
20	ECMU0047B	STUD, CYLINDER 7mm / 6mm

Parts - Engine - Transmission

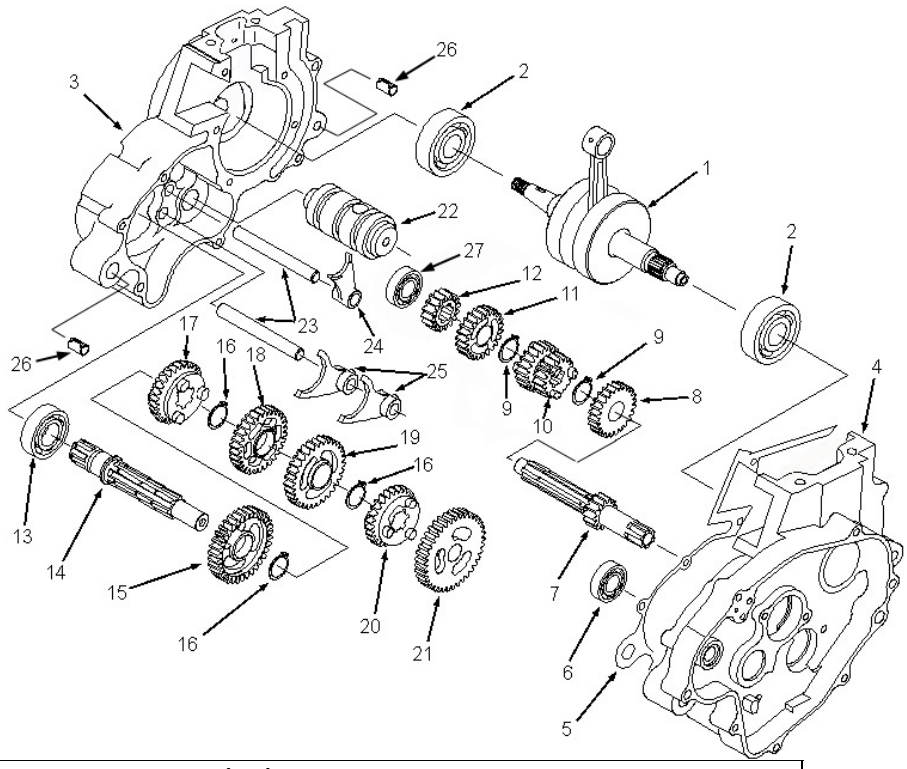


Figure 17

Transmission		
REF #	PART #	DESCRIPTION
1	ECDC0127	CRANKSHAFT
NOT SHOWN	EKEX0001	ROD KIT
2	ECDC0023	BEARING, CRANKSHAFT
3	EKEX0089	ENGINE CASE SET OF LEFT & RIGHT
4	EKEX0089	ENGINE CASE SET OF LEFT & RIGHT
5	ZCDC0001	GASKET, CRANKCASE CENTER
6	ECDC0021	BEARING, OUTPUTSHAFT CLUTCH SIDE
7	ECDC0001	SHAFT, TRANSMISSION PRIMARY (1ST GEAR)
8	ECDC0002	GEAR, 6TH PRIMARY 24T
9	ECDC0003	SNAP RING, EXTERNAL 17 MM (2 REQ'D)
10	ECDC0004	GEAR, 3RD/ 4TH PRIMARY, 18/21T
11	ECDC0005	GEAR, 5TH PRIMARY, 23T
12	ECDC0006	GEAR, 2ND PRIMARY, 16T
13	ECKGBR01	BEARING, OUTPUT IGNITION SIDE
14	ECDC0007	SHAFT, TRANSMISSION OUTPUT
15	ECDC0014	GEAR, 3RD OUTPUT, 31T
16	ECDC0017	SHAP RING, EXTERNAL 18MM (3 REQ'D)
17	ECDC0013	GEAR, 4TH OUTPUT, 30T
18	ECDC0011	GEAR, 5TH, OUTPUT, 28T
19	ECDC0010	GEAR, 2ND OUTPUT, 34T
20	ECDC0015	GEAR, 6TH OUTPUT, 26T
21	ECDC0016	GEAR, 1ST OUTPUT, 37T
22	ECDC0047	SHIFT DRUM
23	ECDC0050	SHIFT ROD (2 REQ'D)
24	ECDC0048	SHIFT FORK, INPUT
25	ECDC0049	SHIFT FORK, OUTPUT (2 REQ'D)
26	ECDC0031	DOWEL, HOLLOW CENTERING (2 REQ'D)
27	ECKG0031	BEARING, PRIMARY SHAFT IGNITION SIDE
NOT SHOWN	ECMU0146	BUSHING, SWINGARM PIVOT ENGINE MOUNT (2 REQ'D)

Parts – Exhaust System

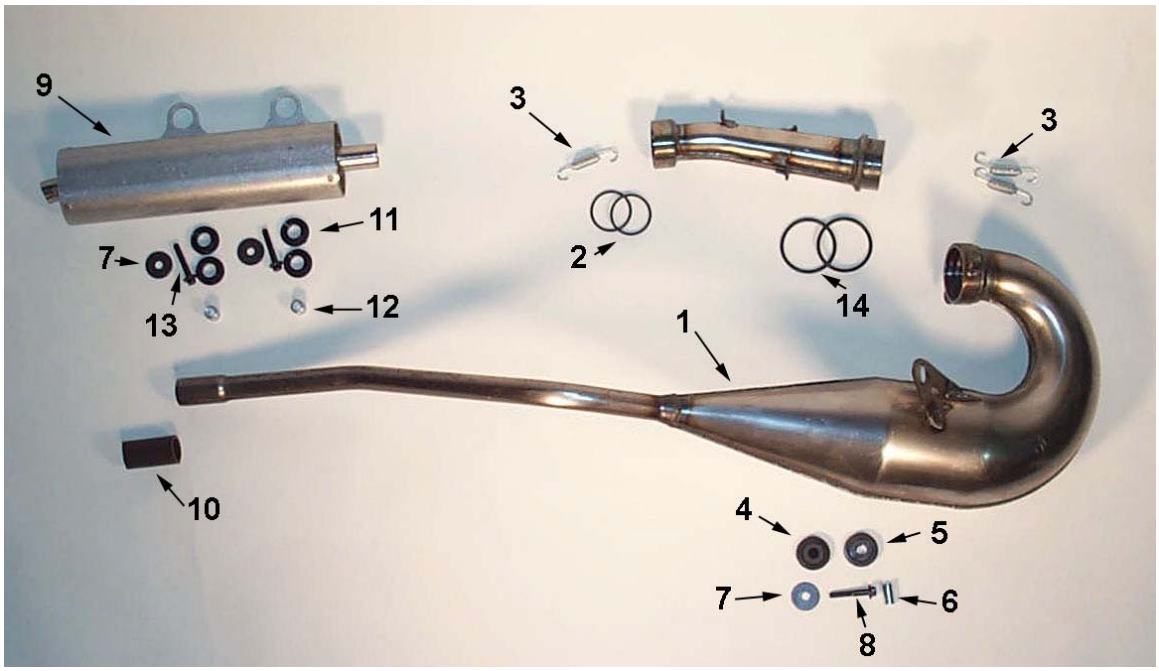
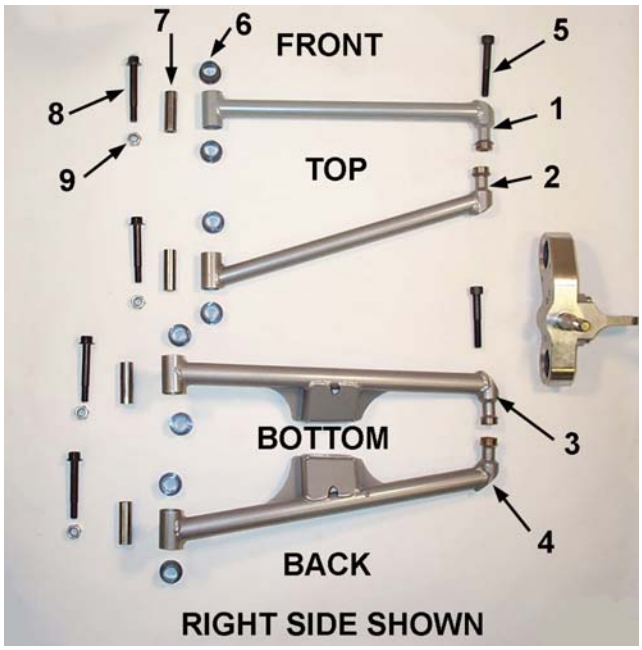


Figure 18

Exhaust System		
REF #	PART #	DESCRIPTION
1	XAEX2005	ECX70 EXHAUST PIPE
2	ZCMOTE11	HEADER PIPE O-RINGS (2 REQ'D)
3	XCMU0005	SPRING, EXHAUST – SHORT
NOT SHOWN	XCMU0030	COVER, EXHAUST SPRING
4	MCMUGR06	PIPE GROMMET MALE
5	MCMUGR07	PIPE GROMMET FEMALE
6	MCMUSP02	PIPE GROMMET SPACER
7	HCWF1478	PIPE GROMMET WASHER (2 REQ'D)
8	HCBF0635	M6X35 FLANGE HEAD BOLT
NOT SHOWN	HCNL0601	6MM LOCK NUT – FOR FRONT PIPE MOUNT
9	XCDC0003	SILENCER
NOT SHOWN	XCMU0026	SILENCER PACKING KIT
10	XCKG0009	PIPE / SILENCER SEAL
11	MCMUGR03	MOUNTING GROMMET (4 REQ'D TOTAL, 2 PER BOLT)
12	TCKG0001	SPACER (2 REQ'D)
13	HCBF0630	M6X30 FLANGE HEAD BOLT (2 REQ'D)
14	ZCEX0001	PIPE COUPLING O-RING (2 REQ'D)

Parts - Front A-Arms & Steering Upright



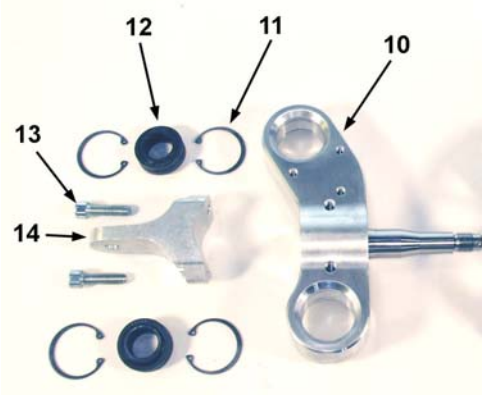


Figure 19

A-arms & steering upright		
REF #	PART #	DESCRIPTION
1	GAEX0001	A-ARM FRONT TOP (SAME PIECE FROM LEFT TO RIGHT)
2	GAEX0002	A-ARM BACK TOP (SAME PIECE FROM LEFT TO RIGHT)
3	GAEX0007	A-ARM FRONT BOTTOM RIGHT
	GAEX0006	A-ARM FRONT BOTOTM LEFT
4	GAEX0009	A-ARM BACK BOTTOM RIGHT
	GAEX0008	A-ARM BACK BOTTOM LEFT
5	HCBC1065	10MM X 65 SOCKET HEAD CAP SCREW (BLACK OXIDE)
6	MCEXBR05	BUSHING, A-ARM
7	GCEX0006	SPACER, A-ARM PIVOT TUBE
8	HCBF1070	10MM X 70 FLANGE HEAD BOLT
9	HCNL1001	10MM LOCKNUT
10	GAEX0003	UPRIGHT WITH SPINDLE, EITHER SIDE
11	MCEXCL01	SNAP RING, 1-3/8 INTERNAL
12	MCEXBR01	BEARING, SPHERICAL
13	HCBC0806	8MM X 30 SOCKET HEAD CAP SCREW (2 REQ'D)
14	GCEX0009	STEERING ARM

Parts – Front Brakes

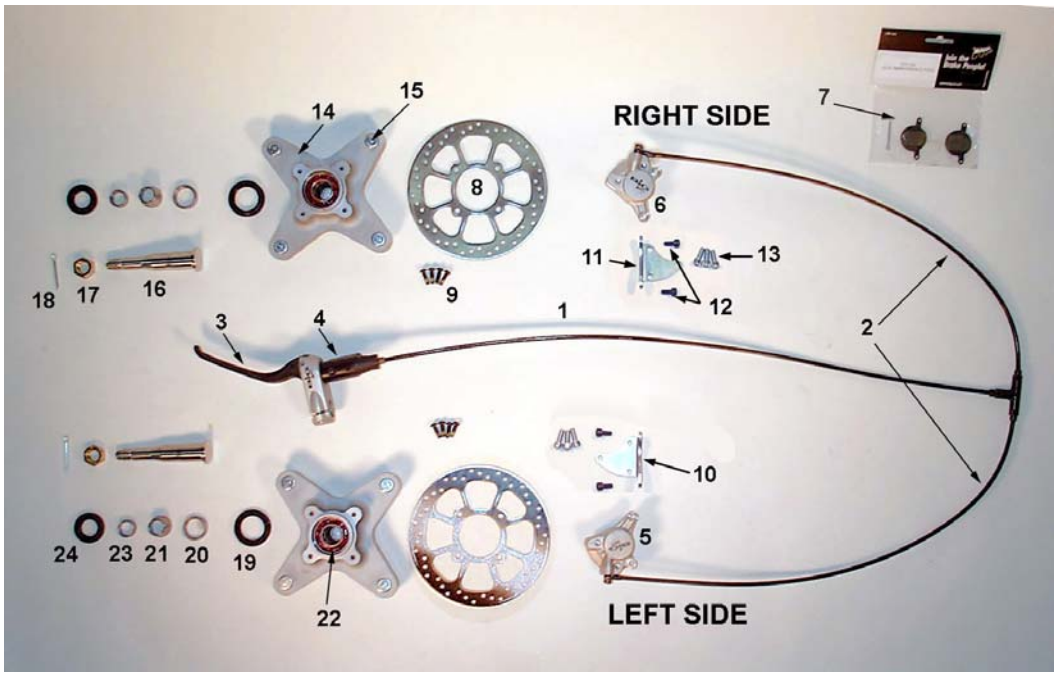


Figure 20

Front Brakes		
REF #	PART #	DESCRIPTION
1	BAEX0001	FRONT BRAKE ASSEMBLY
2	BKEX0001	HOSE – TEE TO CALIPER
3	BKEX0002	HOSE – MASTER CYLINDER TO TEE
4	BCEX0005	BRAKE PERCH & MASTER CYLINDER ASSY W/ LEVER
5	BCEX0015	CALIPER – FRONT RIGHT
6	BCMU0204	CALIPER – FRONT LEFT
7	BCMU0203	REPLACEMENT BRAKE PADS
8	BCEX0002	BRAKE ROTOR - FRONT (SAME L&R)
9	HCBB0516	M5X16 BUTTON HEAD BOLTS WITH THREAD LOC (4 REQ'D)
10	BCEX0003R	BRAKE CALIPER BRACKET - RIGHT
11	BCEX0003L	BRAKE CALIPER BRACKET - LEFT
12	HCBC0612	6MM X 12 SOCKET HEAD CAP SCREW (2 PER SIDE)
13	HCBC0601	6MM X 16 SOCKET HEAD CAP SCREW (3 PER SIDE)
14	WCEX0001	FRONT HUB WITH WHEEL STUDS
16	GCEX0008	WHEEL SPINDLE (SAME L&R)
17	HCNS1400	M14 CASTLE NUT (SAME L&R)
18	HCCP0002	COTTER PIN (SAME L&R)
19	GCEX0022	INNER HUB SEAL (SAME L&R)
NOT SHOWN	ECKGBR01	INNER HUB BEARING
20	WCEX0301	INNER HUB BUSHING
21	WCEX0300	CENTER HUB SPACER
22	ECMU0001	OUTER HUB BEARING
23	WCEX0302	OUTER HUB BUSHING
24	GCEX0023	OUTER HUB SEAL
NOT SHOWN	BCMU0205	BRAKE OIL, 2 OZ BOTTLE
NOT SHOWN	BCMU0211	BRAKE OIL, 500 CC BOTTLE
NOT SHOWN	BCMU0210	SYSTEM BLEED SYRINGE
NOT SHOWN	BKMU0200	BRAKE BLEEDING KIT (2OZ OIL, SYRINGE, FITTINGS, ETC…)
NOT SHOWN	BCMU0216	MASTER CYLINDER REMOVAL TOOL, TORX WRENCH T08

Parts – Front Shock

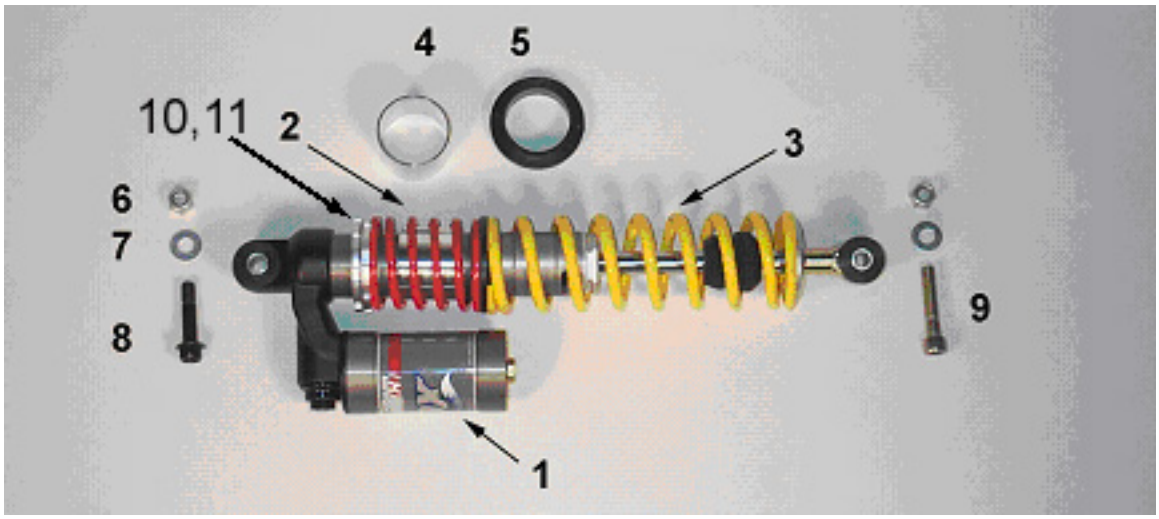


Figure 21

Front Shock		
REF #	PART #	DESCRIPTION
1	SAEX2005	SHOCK ECX70 – FRONT (2 REQ'D)
2	SCEX1080	SPRING, HELPER, 80 LB/IN (STANDARD)
	SCEX1095	SPRING, HELPER, 95 LB/IN (HEAVY)
3	SCEXA155	SHOCK SPRING, STANDARD (YELLOW, 155 LB/IN)
	SCEXA145	SHOCK SPRING, LIGHT (RED, 145 LB/IN)
	SCEXA165	SHOCK SPRING, HEAVY (BLACK, 165 LB/IN)
4	SCSP0001	TRAVEL LIMITER (1.50")
	SCSP0002	TRAVEL LIMITER (1.25")
	SCSP0003	TRAVEL LIMITER (1.00")
5		TOP SPRING PERCH
6	HCNL1001	10MM LOCK NUT (2 REQ'D)
7	HCWF0010	10MM FLAT WASHER
8	HCBF1040	10MM X 44 SHOCK BOLT
9	HCBC1002	10MM X 50 SOCKET HEAD CAP SCREW
10	SCKGFX04	PRELOAD RING BOTTOM
11	SCKGFX05	PRELOAD RING TOP (LOCK RING)

Parts – Miscellaneous

If you couldn't find it in one of the other pictures try the table below.

PART #	DESCRIPTION
WCEX0005	REAR WHEEL WITH TIRE
WCEX0004L	LEFT FRONT WHEEL WITH TIRE
WCEX0004R	RIGHT FRONT WHEEL WITH TIRE
FAEX2006	FRAME
FCEX0002	CHAIN SLIDER SPLIT BUSHING
HCBH0804	M8 X 120 (FRONT ENGINE MOUNT BOLT)
HCWF0801	8MM FLAT WASHER
HCNL0801	8MM LOCK NUT
FAEX0017R	SPACER, FRONT ENGINE MOUNT RIGHT
FAEX0017L	SPACER, FRONT ENGINE MOUNT LEFT
TCEXOO11	GRAPHICS

Parts – Plastic Bodywork & Seat

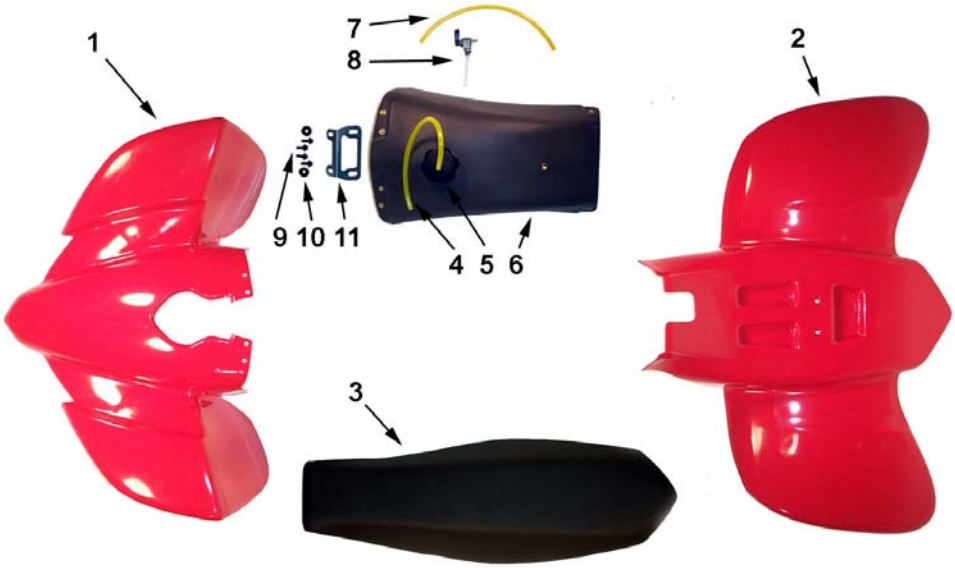
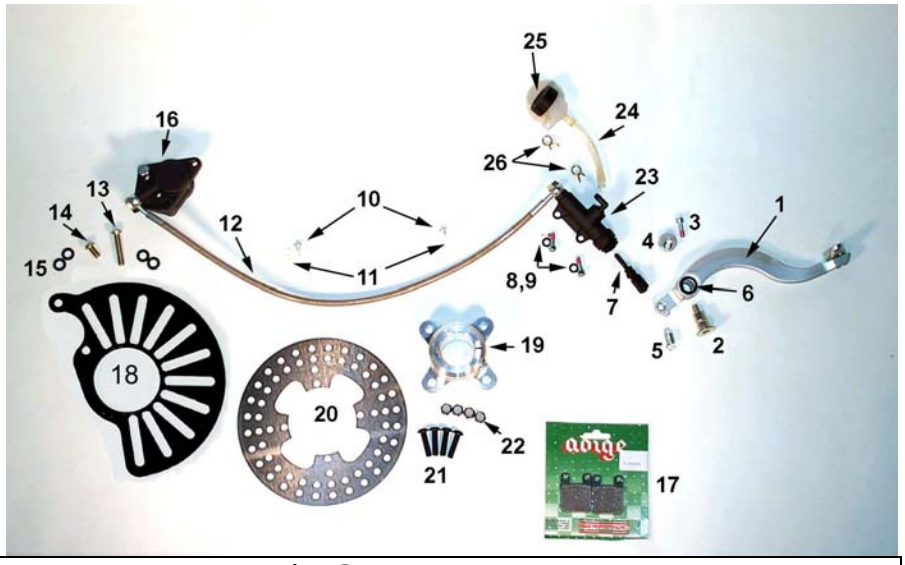


Figure 22

Plastic and Bodywork		
REF #	PART #	DESCRIPTION
1	TCEX0001	FRONT CLIP
NOT SHOWN	HCBB0616	M6 X 16 BUTTON HEAD (4 REQ'D AT BACK)
NOT SHOWN	HCWF0601	6 MM FLAT WASHER (4 REQ'D AT BACK)
NOT SHOWN	HCBB0625	M6 X 25 BUTTON HEAD (2 REQ'D AT FRONT)
NOT SHOWN	HCWF0601	6MM FLAT WASHER (2 REQ'D AT FRONT)
NOT SHOWN	MCMUGR07	GROMMET, (2 REQ'D AT FRONT)
NOT SHOWN	HCWF1478	WASHER, FENDER (2 REQ'D AT FRONT)
NOT SHOWN	HCNL0601	6MM LOCK NUT (2 REQ'D AT FRONT)
2	TCEX0002	REAR DECK
NOT SHOWN	HCBB0625	M6 X 25 BUTTON HEAD (2 REQ'D PLASTIC TO GRAB BAR)
NOT SHOWN	HCWF0601	6MM FLAT WASHER (2 REQ'D PLASTIC TO GRAB BAR)
NOT SHOWN	MCMUGR07	GROMMET, (2 REQ'D PLASTIC TO GRAB BAR)
NOT SHOWN	HCWF1478	WASHER, FENDER (2 REQ'D PLASTIC TO GRAB BAR)
NOT SHOWN	HCNL0601	6MM LOCK NUT (2 REQ'D PLASTIC TO GRAB BAR)
NOT SHOWN	HCBB0616	6MM BUTTON HEAD (2 REQ'D AT FRONT)
NOT SHOWN	HCWF0601	6MM FLAT WASHER (2 REQ'D AT FRONT)
3	TAEX0011	SEAT
NOT SHOWN	HCBB0635	M6 X 35 BUTTON HEAD (1 REQ'D SEAT TO PLASTIC)
NOT SHOWN	MCMUGR04	GROMMET (1 REQ'D SEAT TO PLASTIC)
NOT SHOWN	HCWF1478	WASHER, FENDER (1 REQ'D SEAT TO PLASTIC)
NOT SHOWN	HCNL0601	6MM LOCK NUT (1 REQ'D SEAT TO PLASTIC)
4	ECDC0106	FUEL VENT HOSE
5	TCHA0002	FUEL CAP
6	TCEX0019	FUEL TANK (NO PETCOCK, CAP, OR BRACKET)
7	FCMU0027	FUEL LINE
8	TCMU0000	FUEL PETCOCK ('06 LEVER)
9	HCBC0601	M6 X 16 SOC. HEAD BOLT (2 REQ'D)
10	MCMUGR04	GROMMET (2 REQ'D)
11	TCEX0110	FUEL TANK BRACKET
NOT SHOWN	TCHA0005	TANK MOUNT REAR
NOT SHOWN	HCFH0620	M6 X 20 FLAT HEAD
NOT SHOWN	HCBF0616	M6 X 16 FLANGE HEAD BOLTS (2 REQ'D)
NOT SHOWN	HCBF0620	M6 X 20 FLANGE HEAD BOLT (1REQ'D AT THE REAR)
NOT SHOWN	TCKG0001	SPACER, TANK MOUNT (1REQ'D AT THE REAR)
NOT SHOWN	TCEX0011	GRAPHICS

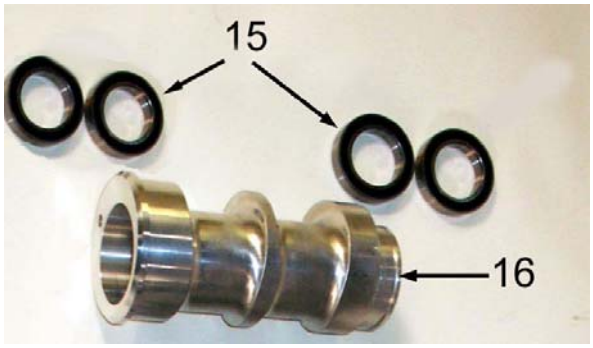
Parts – Rear Brake

Figure 23



Rear Brake System		
REF #	PART #	DESCRIPTION
	BADC0001	BRAKE COMPLETE
1	BCEX0007	BRAKE PEDAL
2	BCDC0009	BRAKE PIVOT BOLT
3	HCBC0601	M6X16 SOC. HEAD BOLT
4	FCEX0018	BRAKE ADJUST ECCENTRIC
5	BCEX0012	BRAKE RETURN SPRING
6	BCMU0501	SEAL – BRAKE PEDAL (2 REQ'D)
7	BCDC0004	PUSH ROD, REAR BRAKE
8	HCBC0601	M6X16 SOC. HEAD BOLT (2 REQ'D)
9	HCWF0601	6MM FLAT WASHER (2 REQ'D)
10	HCPP0832	BRAKE HOSE CLAMP FASTENER (2 REQ'D)
11	HCCC0000	BRAKE HOSE CLAMP (2 REQ'D)
12	BCDC0151	REAR BRAKE HOSE
13	HCBC0850	M8X50 SOCKET HEAD CAP SCREW
14	HCBC0825	M8X25 SOCKET HEAD CAP SCREW
NOT SHOWN	BCEX0032	SPACER – CALIPER MOUNT
15	BCEX0014	CALIPER SPACER (2 REQ'D)
16	BCDC0002	CALIPER – REAR BRAKE
17	BCDC0007	BRAKE PAD KIT – ORGANIC
17	BCEX0013	BRAKE PAD KIT – SINTERED METAL
18	BAEX0006	REAR BRAKE CARRIER, FULL ADJUSTABLE
NOT SHOWN	GCEX0016	SPACER BRAKE HUB
NOT SHOWN	WCEX0006	SNAP RING, BRAKE CARRIER RETAINER
19	GCEX0014	BRAKE/SPROCKET HUB
20	BCEX0004	BRAKE ROTOR REAR QUAD
NOT SHOWN	HCBC0625	6MM X 25 SOCKET HEAD CAP SCREW (2 REQ'D)
21	HCBB0830	8MM X 30 BUTTON HEAD (4 REQ'D)
22	HCNL0801	8MM LOCKNUT (4 REQ'D)
23	BCDC0005	MASTER CYLINDER - REAR
24	BCDC0012	BRAKE LINE – RESERVOIR TO MASTER CYLINDER
NOT SHOWN	HCBC0601	M6X16 SOC. HEAD BOLT
NOT SHOWN	WCMU0006	SPACER – RESERVOIR MOUNT
25	BCDC0006	BRAKE FLUID RESERVOIR
26	MCMUCL05	LINE CLAMP (2 REQ'D)
NOT SHOWN	BCDC0152	BANJO BOLT
NOT SHOWN	BCDC0153	CRUSH WASHER

Parts – Rear Drive



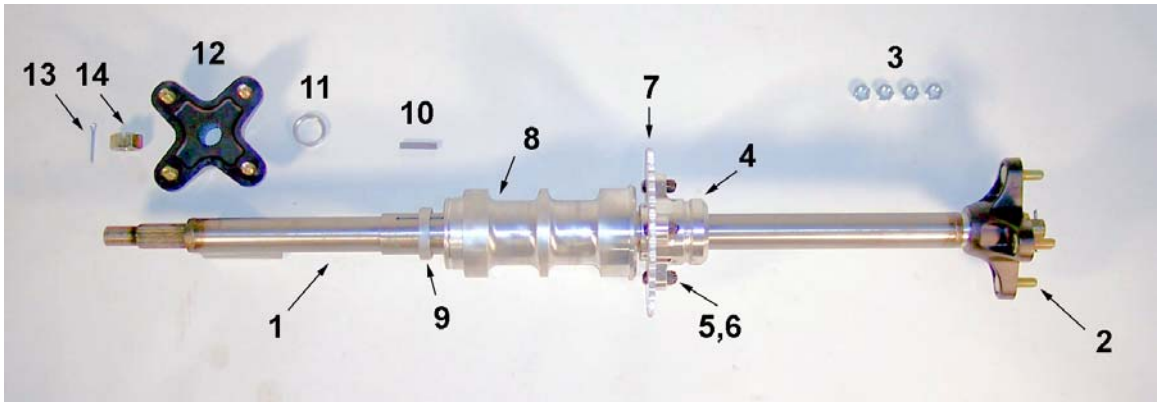


Figure 24

Rear Drive		
REF #	PART #	DESCRIPTION
1	GAEX0005	REAR AXLE
2	WCEX0003	WHEEL LUG (8 REQ'D)
3	HCNS1001	LUG NUT (8 REQ'D)
NOT SHOWN	HCWF0010	LUG WASHER (8 REQ'D)
4	GCEX0014	BRAKE/SPROCKET HUB (2 REQ'D)
NOT SHOWN	HCBC0625	M6 X 25 HUB PINCH BOLT (2 PER HUB)
5	HCBH0808	M8 X 30 HEX HEAD BOLTS (4 REQ'D)
6	HCNL0801	M8 LOCK NUT (4 REQ'D)
7	PCDC00XX	SPROCKET (37T – 51T) – XX DENOTES # OF TEETH
9	GCEX0016	BRAKE HUB SPACER
10	HCKW0001	HUB KEY
11	GCEX0024	REAR WHEEL HUB SPACER (2 REQ'D)*
12	GCEX0011	REAR WHEEL HUB (2 REQ'S)
13	HCCP0002	COTTER PIN (2 REQ'D)
NOT SHOWN	PCMU0104	420 CHAIN – 104 LINK
14	HCNC0020	20 MM X 1.5 NUT CASTLE
15	MCEXBR03	BEARING, REAR AXLE (4 TOTAL, 2 PER SIDE)
16	GCEX0015	ECCENTRIC

- UP TO THREE EXTRA HUB SPACERS CAN BE USED PER SIDE TO ADJUST TRACK WIDTH.

Parts – Rear Shock

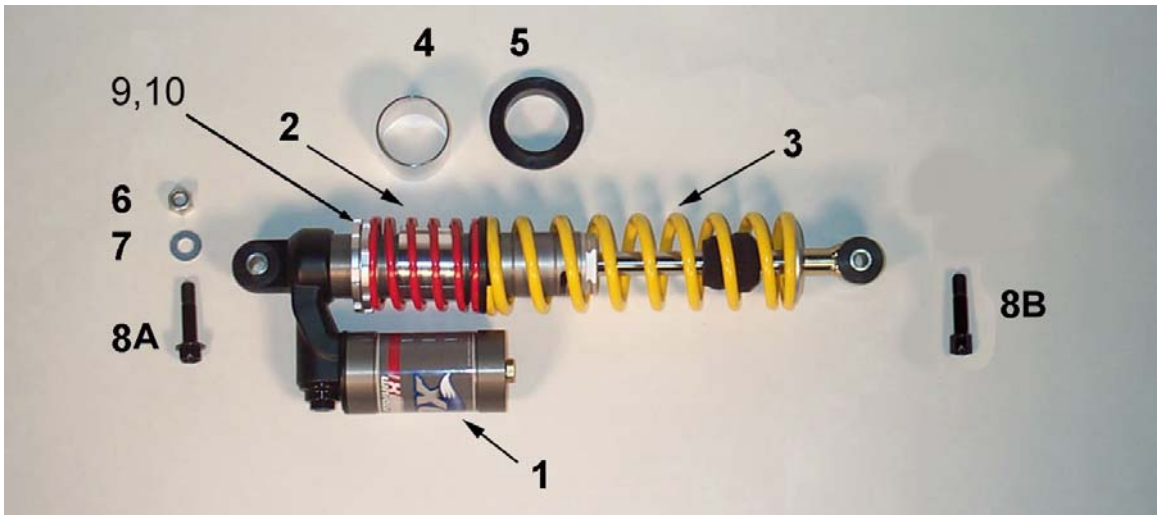


Figure 25

Rear Shock		
REF #	PART #	DESCRIPTION
1	SAEX2006	SHOCK, REAR QUAD FOX
2	SCEX0110	SPRING, HELPER 110LB/IN, STANDARD
	SCEX0125	SPRING, HELPER 125LB/IN, HEAVY
	SCEX0150	SPRING, HELPER, 150 LB/IN, X HEAVY
3	SCEX1375	SHOCK SPRING, STANDARD (WHITE, 375 LB/IN)
	SCEX1350	SHOCK SPRING, LIGHT (RED, 350 LB/IN)
	SCEX0400	SHOCK SPRING, HEAVY (YELLOW, 400 LB/IN)
4	SCSP0003	TRAVEL LIMITER (1.00”)
	SCSP0001	TRAVEL LIMITER (1.50”)
	SCSP0002	TRAVEL LIMITER (1.25”)
5	SCEX0003	SPRING SEPARATOR
6	HCNL1001	10MM LOCKNUT
7	HCWF0010	10MM FLAT WASHER
8A	HCBF1040	10MM X 44 SHOCK BOLT
8B	HCBC1040	10MMX40 SHCS
9	SCKGFX04	PRELOAD RING BOTTOM
10	SCKGFX05	PRELOAD RING TOP (LOCK RING)

Parts – Swingarm Assembly

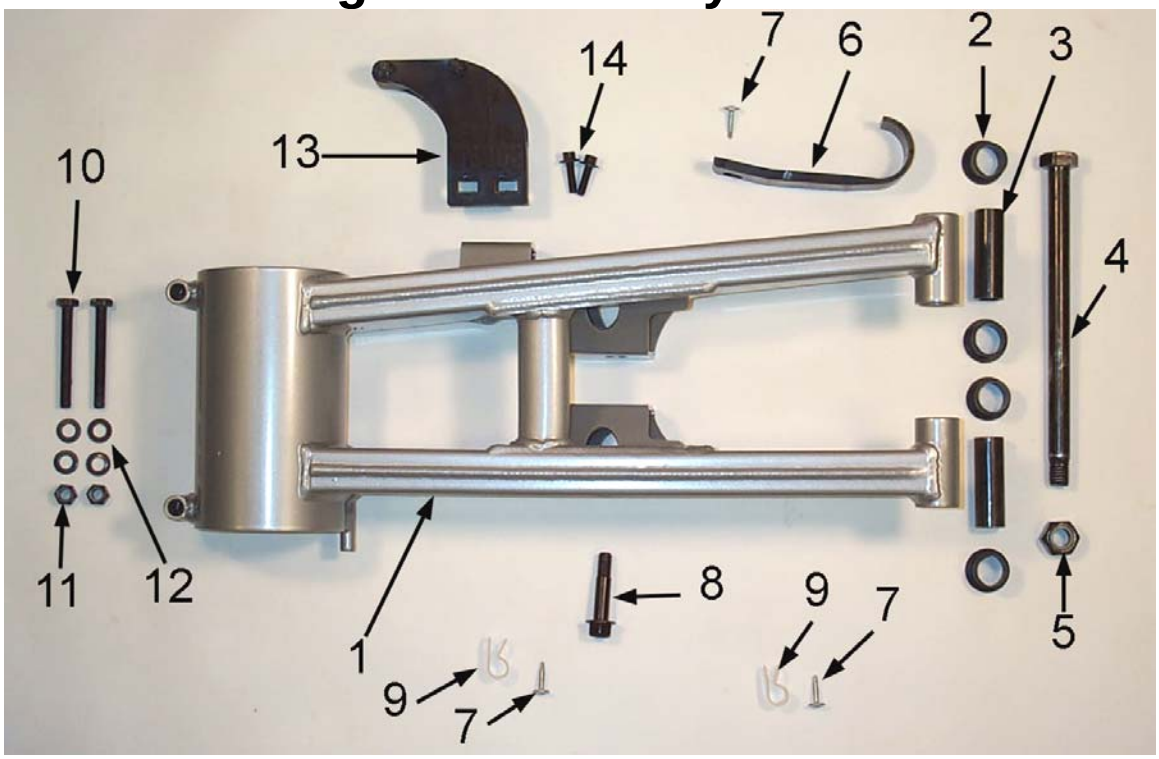


Figure 26

Swingarm		
REF #	PART #	DESCRIPTION
1	GAEX0100	SWINGARM
2	GCMU0030	BUSHING, SWINGARM (4 PER)
3	GCEX0021	SPACER, SWINGARM PIVOT – (2 REQ'D)
4	HCBH1421	SWINGARM PIVOT BOLT (M14 X 1 HEX HEAD)
5	HCNL1402	SWINGARM LOCK NUT (M14 X1)
6	GCEX0050	TOP SWINGARM GUARD – ECX70
7	HCPP0832	SELF TAPPING SCREW
8	HCBF1040	BOLT, SHOCK
9	HCCC0000	BRAKE HOSE CLAMP (2 REQ'D)
10	HCBH0810	ECCENTRIC PINCH BOLT (2 REQ'D)
11	HCNL0801	8MM LOCK NUT (2 REQ'D)
12	HCWF0801	8MM FLAT WASHER (4 REQ'D)
13	PAEX0001	CHAIN GUIDE ASSEMBLY COMPLETE W/ ALUMINUM PLATE
14	HCBF0620	6MM X 20 FLANGE HEAD BOLT (2 REQ'D)

Parts – Tie Rod Assembly

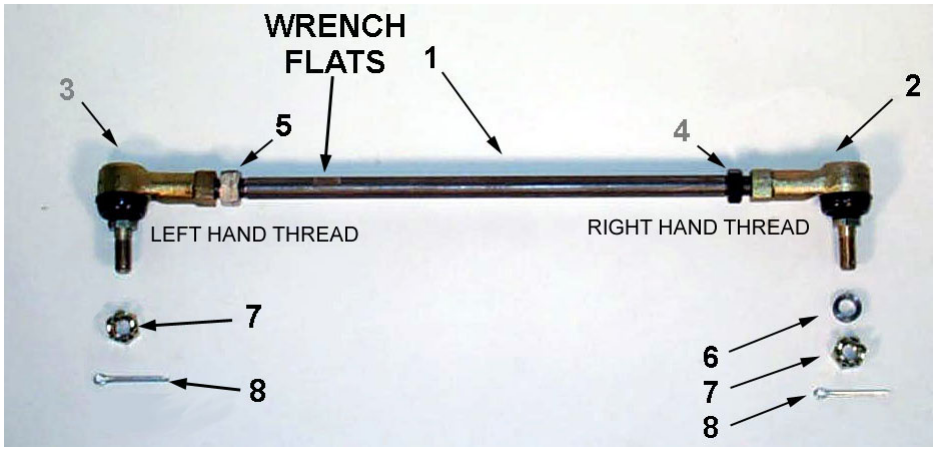


Figure 27

Tie Rod Assembly		
REF #	PART #	DESCRIPTION
1	FAEX0002	TIE ROD
2	MCEXBR02R	RH TIE ROD END
3	MCEXBR02L	LH TIE ROD END
4	HCNJ120L	LH JAM NUT
5	HCNJ120R	RH JAM NUT
6	GCEX0002	SPACER, BALL JOINT
7	HCNC0010	10MM CASTLE NUT (2 REQ'D)
8	HCCP0003	COTTERPIN 3/32" X ¾" (2 REQ'D)

Engine Parts / Service

At this time, the full service instructions for are not yet available your Cobra Motorcycle.

If you don't feel comfortable with the service work, log on to www.cobramotorcycle.com to find a Cobra dealer or Call 517 437 9100.

ES1: Fuel & Air System

Reeds

CAUTION:

- The reeds must lay flat on the reed cage.
- If the reed tips aren't lying flat, replace them immediately.
- The reeds must have a tight seal on the reed cage.
- If the reed is damaged in any way, replace it. This means cracks, chips, and ruptures. Anything abnormal, replace the reeds.

Take the reed cage out and hold it up to the light and look in through the cage. If you see light between the reed pedals and the frame, then replace the reeds. If you do not see light, then the reeds should be ok. (See figure 28)

The presence of light indicates that the reeds should be replaced, or possibly turned over.

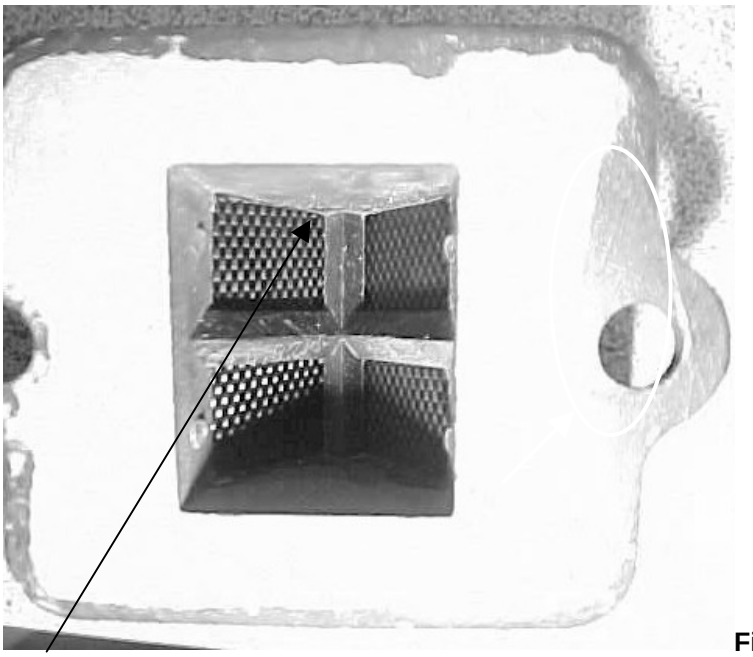


Figure 28

The presence of light indicates that the reeds should be replaced, or possibly turned over.

Carburetor Cleaning

⚠ WARNING

Clean the carburetor in a well-ventilated area, and take care that there is no spark or flame anywhere near the working area; this includes any appliance with a pilot light. Because of the danger of highly flammable liquids, do not use gasoline or low flash-point solvent to clean the carburetor.

1. Make sure the fuel is shut off.
2. Remove the carburetor.
3. Drain the fuel in the carburetor.
4. Disassemble the carburetor.

CAUTION:

Do *not* use compressed air on an assembled carburetor. Or the pressure may deform the float. Do not use a strong carburetor cleaning solution, which could attack the parts of the carburetor; instead, use a mild high cleaning solution safe for plastic parts.

5. Immerse all the metal parts in a carburetor cleaning solution.
6. Rinse the parts in water.
7. After the parts are cleaned, dry them with compressed air.
8. Blow out the fuel passages with compressed air.
9. Assemble the carburetor
10. Install the carburetor onto the motorcycle.

ES2: Exhaust

The pipe is a crucial element to a two-stroke engine. Any kinks, dents, or damage done to the pipe will result in a performance loss.

NOTE:

Be sure to take the pipe off, and remove any carbon that may be built up. Carbon build up is created from exhaust. Exhaust has oils in it, and the oils cling to the walls of the inside of the pipe. Over a long period of time, the diameter of the pipe will decrease, due to carbon build up. So it is essential to clear the residue.

CAUTION:

For optimum performance it is important to repack the silencer. Signs of your silencer needing to be repacked are:

- The bike is louder than normal.
- A loss of power.

Tuning

This section is incomplete at this time.

Troubleshooting

1) **Engine not behaving properly**
    a) Carburetor top is installed backwards (happens a lot)
    b) The carburetor slide indexing pin is missing
2) **Engine is down on power**
    a) Clutch engagement is not set properly
    b) Jetting is incorrect
    c) Silencer needs repacked
    d) Exhaust pipe
        i) Has excess carbon buildup
        ii) Has large dent in it
    e) Compression is low
        i) Piston
        ii) Rings
    f) Reeds are damaged
    g) Ignition timing is incorrect
3) **Engine is excessively loud**
    a) Silencer needs repacking
4) **Engine 'blubbers' at high RPMs**
    a) Jetting too rich
5) **Engine won't start**
    a) Fuel
        i) None in tank
        ii) Is sour or bad
    b) Carburetor is dirty
    c) Ignition
        i) Spark plug fouled
        ii) Spark plug cap off
        iii) Engine Shut-off 'kill' switch is shorted
        iv) Bad electrical ground
        v) Stator winding damaged
    d) Exhaust is plugged
6) **Engine won't idle**
    a) Idle knob needs adjusted
    b) Carburetor jets are dirty

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