CHAMPIONS START HERE

ECX Rolling Chassis

2012

Cobra MOTO

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Cobra Moto, LLC
240 Uran Street
Hillsdale, Michigan 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 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 ROLLING CHASSIS 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 PRODUCT CAN CAUSE INJURY OR DEATH.

THIS PRODUCT 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 ROLLING CHASSIS 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	ECX50
Dimensions	
Wheelbase	42” (1067mm)
Width Front / Rear	43” / 46” (1092mm / 1168mm)
Weight	198lb
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

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) 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)	Main
Less than 50	SCEX2325 (White, 325 LB/IN)
50 to 75	SCEX2350 (Yellow, 350 LB/IN)
Greater than 75	SCEX2375 (Red, 375 LB/IN)

	Spring Rate (lb/in)	Color	Part Number
Helper	**65**	**Silver**	**SCEX0065P**
	80	**Red**	**SCEX1080**
	95	**Yellow**	**SCEX1095**
	110	**White**	**SCEDX1110**
	125	**Gold**	**SCEX1125**
	150	**Green**	**SCEX1150**
	175	**Black**	**SCEX0175P**
	200	**Silver**	**SCEX0200P**
	250	**Red**	**SCEX0250P**
	300	**Yellow**	**SCEX0300P**
	350	**White**	**SCEX0350P**
Fox 8” long main spring (front)			
	105	**Orange**	**SCEX1105**
	115	**Green**	**SCEX1115**
	125	**White**	**SCEX2125**
	135	**Blue**	**SCEX1135**
	145	**Red**	**SCEX1145**
	155	**Yellow**	**SCEX1155**
	165	**Black**	**SCEX1165**
Fox 7” long main spring (rear)			
	300	**Red**	**SCEX1300**
	315	**Yellow**	**SCEX1315**
	330	**White**	**SCEX1330**
	350	**Red**	**SCEX1350**
	375	**White**	**SCEX1375**
	400	**Yellow**	**SCEX1400**
	425	**Blue**	**SCEX0425P**
	450	**Green**	**SCEX0450P**
	475	**Black**	**SCEX0475P**
	500	**Purple**	**SCEX0500P**
Fox 10” long main spring (rear)			
	325	**White**	**SCEX2325**
	350	**Yellow**	**SCEX2350**
	375	**Red**	**SCEX2375**
	400	**Black**	**SCEX2400**

Spring rate chart for Cobra Fox quad shocks

Maintenance

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

Tips

1. New chains will stretch on first use. Never install a new chain prior to a race. Always 'break' them in during practice.
2. Your Cobra Motorcycle has a 10 digit VIN (Vehicle Identification Number). The first two digits indicate the model and the seventh indicates the model year (MY).
    a. Example, Acxxxx7xxx is a 2007 MY quad.

Schedule

- Between each ride
    - Check the air filter (clean and re-oil as 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.
    - Check the rims for signs of stress, like cracks around the rim, spokes and hub.
- Every 10 hours of operation
    - Replace the fork oil.
    - 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 4130 Chrome Moly 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. Use ER70S6 filler if welding on the frame.

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).

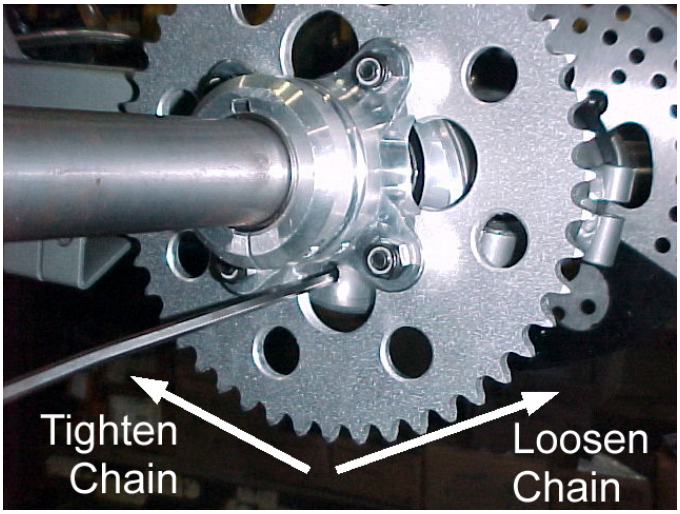


Figure 1

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.

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.

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.

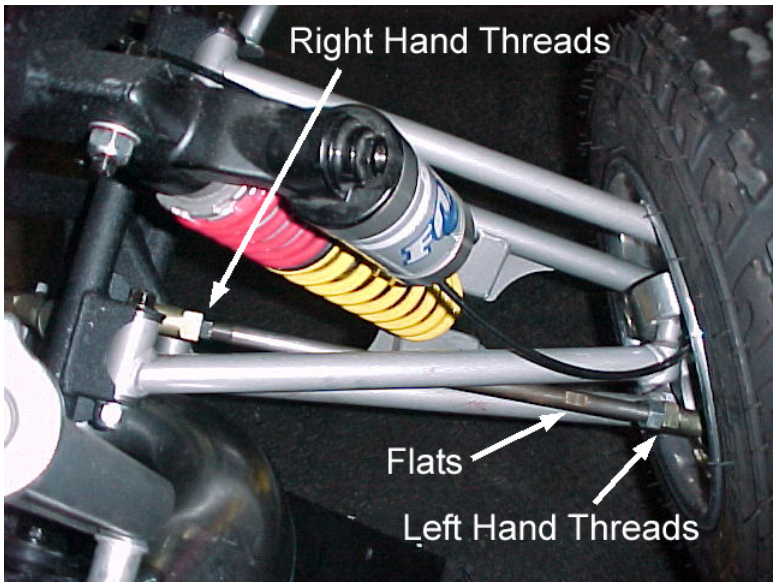


Figure 3

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 – Bars and Steering

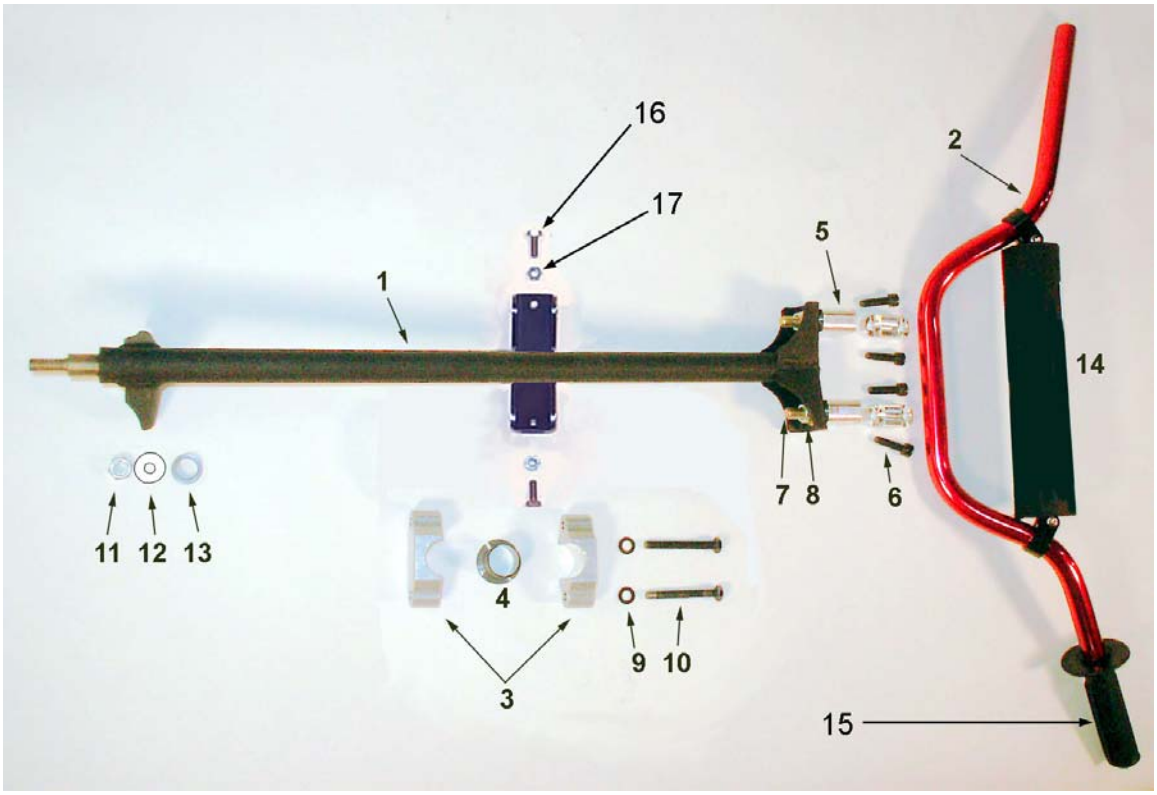
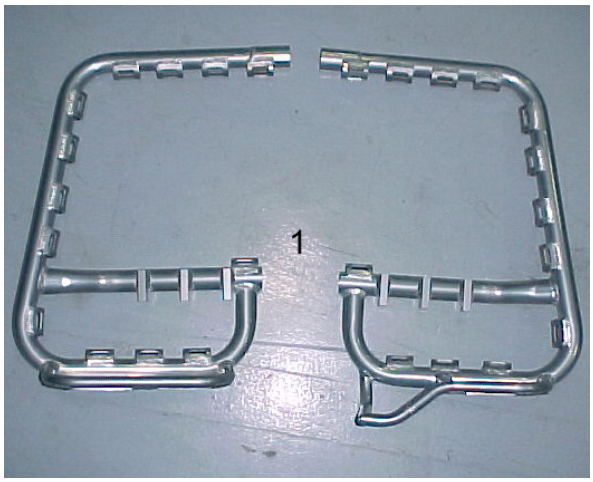


Figure 5

Bars and Steering		
REF #	PART #	DESCRIPTION
1	FAEX0020	STEERING STEM
2	TCMU0009	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	TKMU0404	BAR MOUNT KIT, SHORT – REPLACEMENT (1 REQ'D)
NOT SHOWN	TKMU0403	BAR MOUNT KIT, TALL – OPTIONAL (1 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



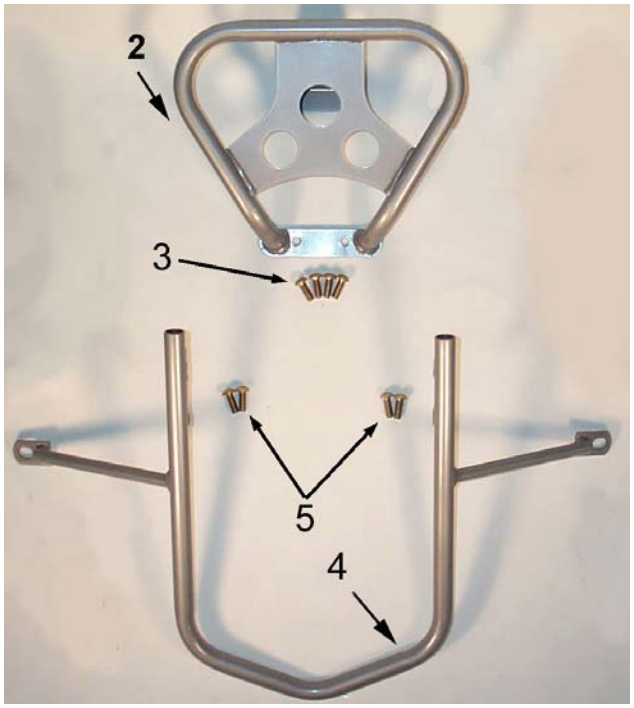


Figure 6

BODY PROTECTION		
REF #	PART #	DESCRIPTION
1	FCEX0100	NERF BARS SET WITH NETS 2010 (shown)
	FCEX0096B	NERF NETS (BLACK)
	FAEX0022	MOUNT – 2010 NERF BAR MOUNT – FRONT
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 – Exhaust System

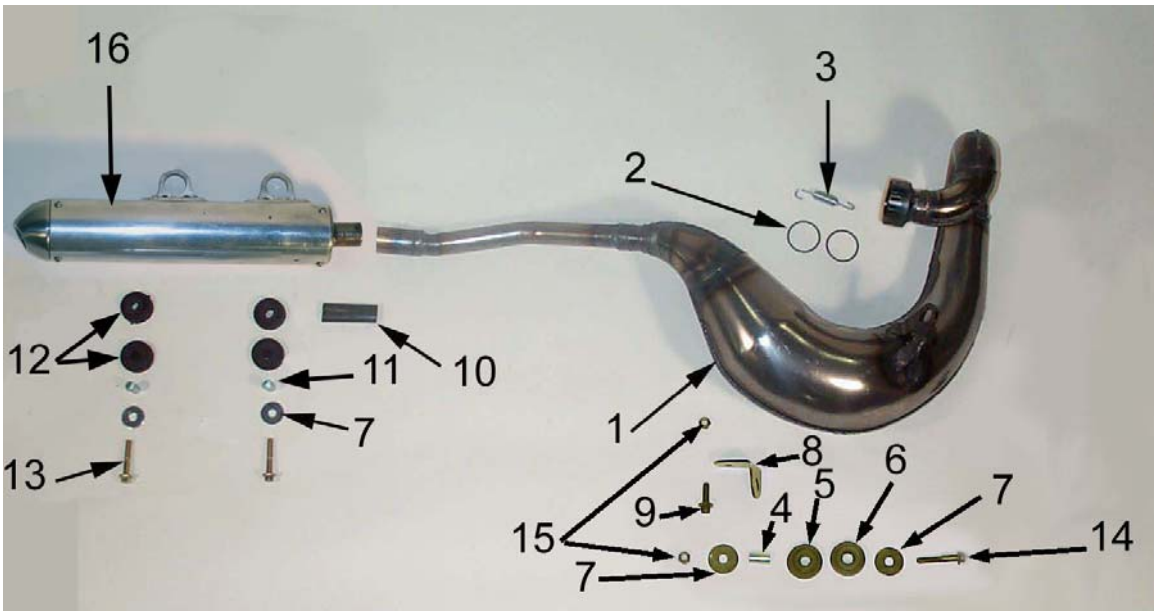
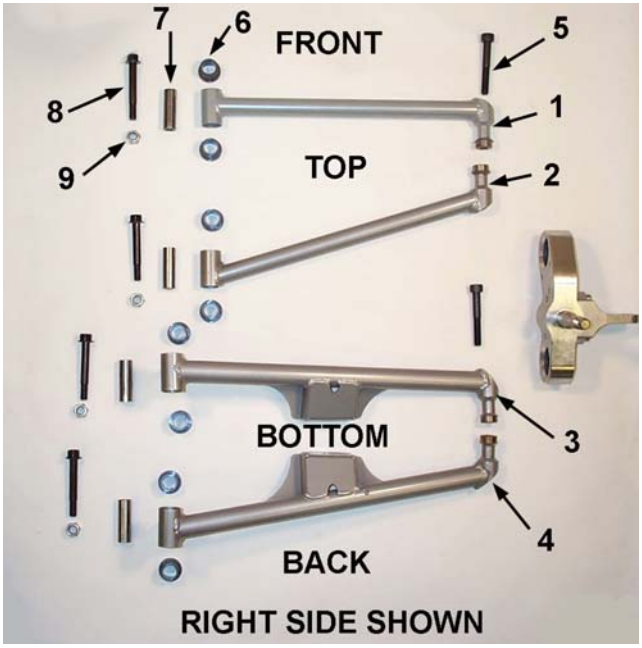


Figure 18

Exhaust System		
REF #	PART #	DESCRIPTION
1	XAE50001	2006 ECX50 EXHAUST PIPE (2 piece)
NOT SHOWN	ZCEX0001	O-RING BETWEEN PIPE SECTIONS
2	ZCMOTE11	HEADER PIPE O-RINGS (2 REQ'D)
3	XCMU0005	EXHAUST SPRING – SHORT (3 REQ'D)
4*	MCMUGR02	PIPE GROMMET SPACER (ONLY AVAILABLE IN MCMUGR02 GROMMET KIT)
5*	MCMUGR02	PIPE GROMMET MALE (ONLY AVAILABLE IN MCMUGR02 GROMMET KIT)
6*	MCMUGR10	PIPE GROMMET FEMALE
7*	HCWF1478	PIPE GROMMET WASHER (2 REQ'D)
NOT SHOWN	MCMUGR02	GROMMET KIT
8	FCEX5003	BRACKET – PIPE MOUNT
9	HCBF0620	M6 X 20 FLANGE HEAD BOLT
10	XCKG0009	PIPE / SILENCER SEAL
11	TCKG0001	SPACER
12	MCMUGR03	GROMMET
13	HCBF0630	M6 X 30 FLANGE HEAD BOLT
14*	HCBF0635	M6 X 35 FLANGE HEAD BOLT
15	HCNL0601	6MM LOCKNUT
16	XCMU0032	SILENCER
NOT SHOWN	XAEX0001	SILENCER – 'STAR' REINFORCED
NOT SHOWN	XCMU0026	KIT SILENCER REPACKING
NOT SHOWN	HCBB0408	M4 X 8 SILENCER SCREW

*Parts are included in MCMUGR02 grommet kit.

Parts - Front A-Arms & Steering Upright



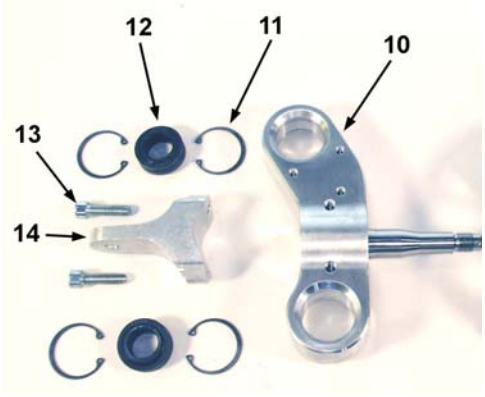
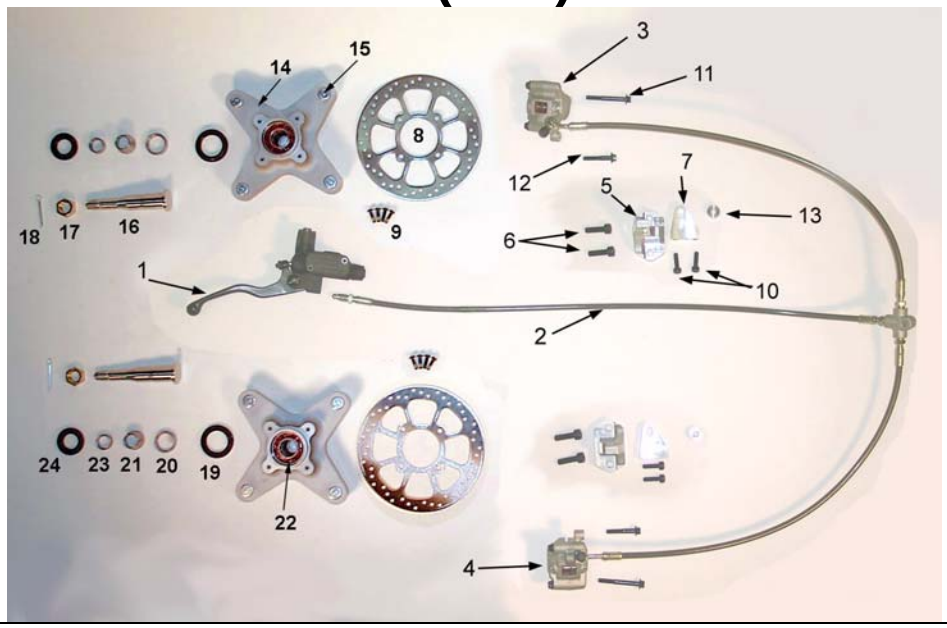


Figure 19

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	GAEX0003/4	UPRIGHT WITH SPINDLE, 03 Right, 04 Left
	GCEX0032	GREASE FITTING
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 (AJP)



Front Brakes		
REF #	PART #	DESCRIPTION
	BAEX0004	BRAKE SYSTEM COMPLETE
	BCEX0024	BANJO BOLT
	BCEX0025	BRAKE PADS
	BCEX0029	CRUSH WASHER
1	BCDC0003	MASTER CYLINDER
2	BCEX0026	REPLACEMENT LINE
3	BCEX0028	CALIPER LEFT
4	BCEX0027	CALIPER RIGHT
5	BCEX0020	BRAKE ARM
6	HCBC0825	M8 X 25 SHCS
7	BCEX0021	BRAKE MOUNT
8	BCEX0019	BRAKE ROTOR
Not Shown	HCWF0504	BRAKE ROTOR SPACER (4 REQ'D PER ROTOR)
9	HCBB0516	ROTOR BOLT
10	HCBC0602	M6 X 20 SHCS
11	HCBF0640	M6 X 40 FLANGE HEAD BOLT
12	HCBF0635	M6 X 35 FLANGE HEAD BOLT
13	BCEX0022	BRAKE MOUNT SPACER
14	WCEX0001	FRONT HUB WITH WHEEL STUDS
15	HCNS1001	LUG NUT (8 REQ'D)
	HCWF0010	LUG WASHER (8 REQ'D)
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
		BRAKE FLUID

Parts – Front Shock

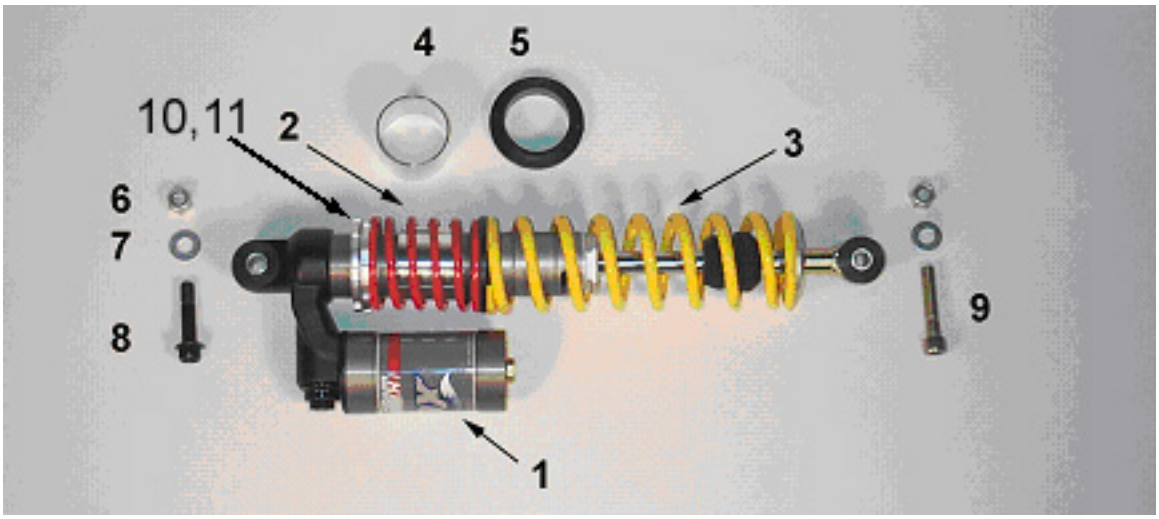


Figure 21

Front Shock		
REF #	PART #	DESCRIPTION
1	SAEX2005	SHOCK ECX50 – 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)
	SCEXFX01	END BUSHING PLASTIC (TOP)
	SCEXFX02	STEEL EYELET (TOP)
	SCEXFX03	END BUSHING PLASTIC (BOTTOM)
	SCEXFX04	STEEL EYELET (BOTTOM)

Parts – Miscellaneous

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

PART #	DESCRIPTION
WCEX0007	REAR WHEEL WITH TIRE 6X8"
WCEX0004L	LEFT FRONT WHEEL WITH TIRE
WCEX0004R	RIGHT FRONT WHEEL WITH TIRE
FAEX2011	FRAME
FCEX0002	CHAIN SLIDER SPLIT BUSHING
HCBC1120	M10 X 120 (FRONT ENGINE MOUNT BOLT)
HCWF0010	10MM FLAT WASHER (2 REQ'D)
HCNL1001	10MM LOCK NUT
FAE50001	MOTOR MOUNT LH 50 QUAD
FAE50002	MOTOR MOUNT RH 50 QUAD
FCEX0039	SPACER, ENGINE MOUNT 50CC RIGHT
FAEX0100	FRAME GUSSET KIT '09

Parts – Plastic Bodywork & Seat

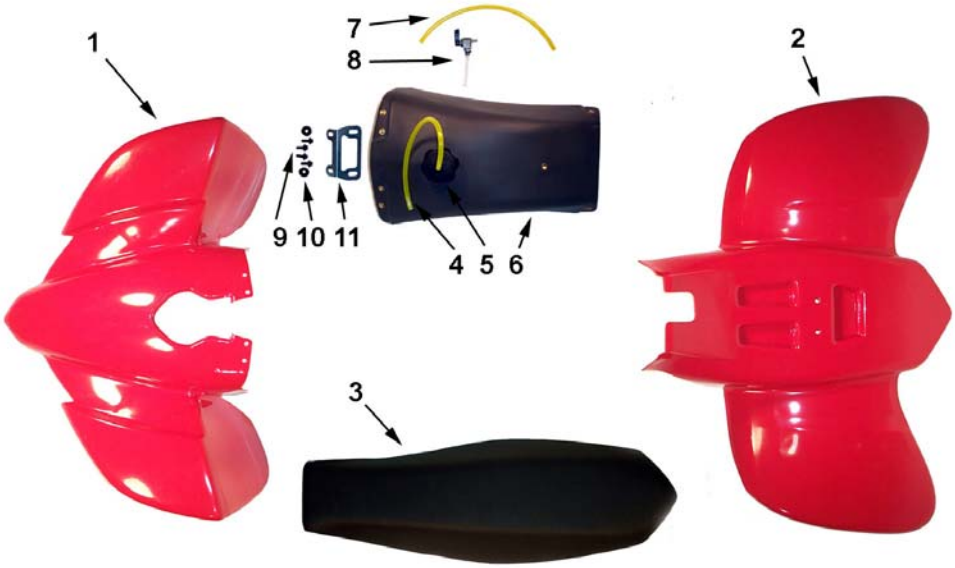
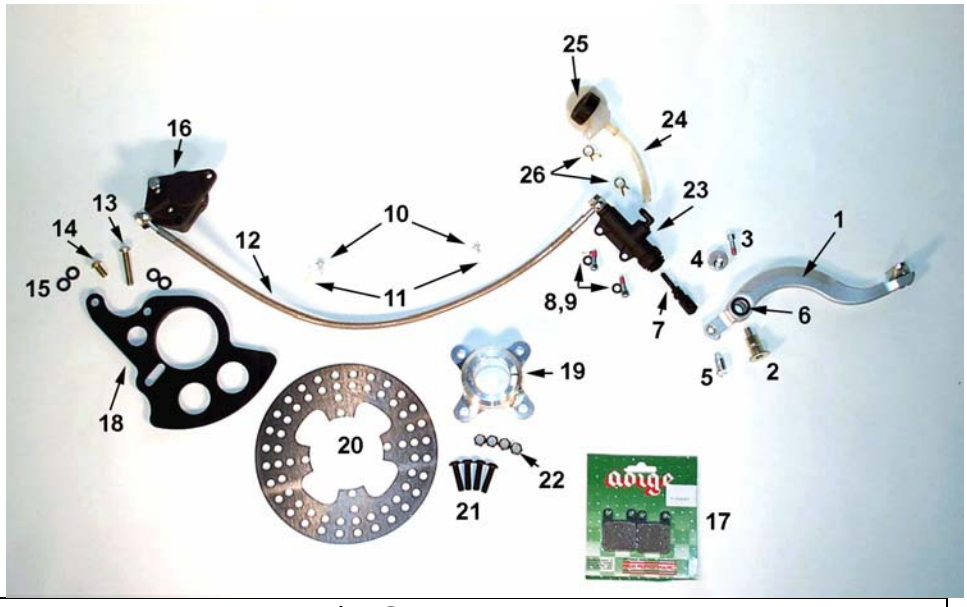


Figure 22

Plastic and Bodywork		
REF #	PART #	DESCRIPTION
1	TCEX0001Y or W	FRONT CLIP, YELLOW OR WHITE
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	MCMUGR10	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	TCEX0002Y or W	REAR DECK, YELLOW OR WHITE
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	MCMUGR10	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	RCE50002	TANK VENT HOSE
5	TCHA0002	FUEL CAP
6	TCEX0019	FUEL TANK (NO PETCOCK, CAP, OR BRACKET)
7	RCE50001	FUEL LINE
8	TCMU0151	FUEL PETCOCK
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	TCEX2009	GRAPHICS

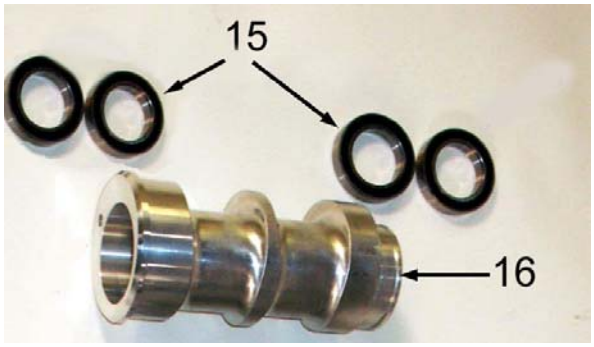
Parts – Rear Brake

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



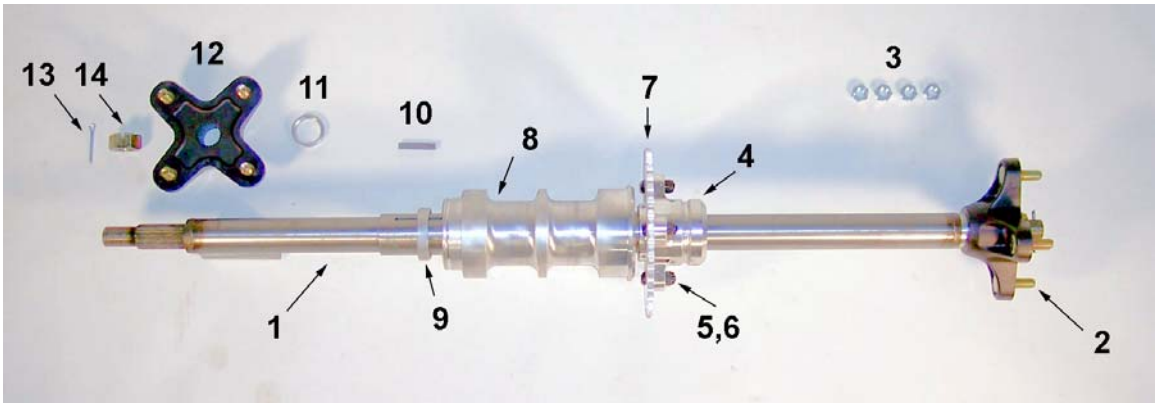


Figure 24

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 TWO HUB SPACERS CAN BE USED PER SIDE TO ADJUST TRACK WIDTH. USING THREE HUB SPACERS MAY CAUSE THE SPLINES TO STRIP.

Parts – Rear Shock (Fox)

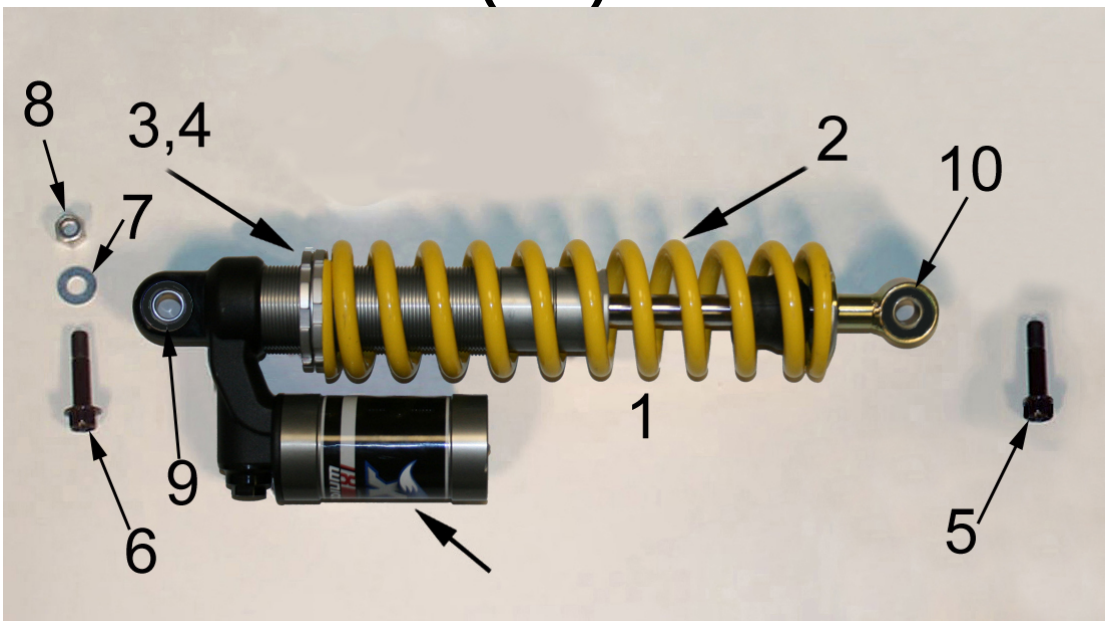


Figure 25

Rear Shock		
REF #	PART #	DESCRIPTION
1	SAE52009	SHOCK, REAR QUAD FOX
2	SCEX2350	SHOCK SPRING, STANDARD (350 LB/IN)
	SCEX2325	SHOCK SPRING, LIGHT (325 LB/IN)
	SCEX2400	SHOCK SPRING, HEAVY (400 LB/IN)
3	SCKGFX04	PRELOAD RING BOTTOM
4	SCKGFX05	PRELOAD RING TOP (LOCK RING)
5	HCBC1050	10MM X 50 SHCS
6	HCBF1040	10MM X 44 SHOCK BOLT
7	HCWF0010	10MM FLAT WASHER
8	HCNL1001	10MM LOCKNUT
9	SCEXFX01	END BUSHING PLASTIC (TOP)
9	SCEXFX02	STEEL EYELET (TOP)
10	SCEXFX03	END BUSHING PLASTIC (BOTTOM)
10	SCEXFX04	STEEL EYELET (BOTTOM)

Parts – Swingarm Assembly

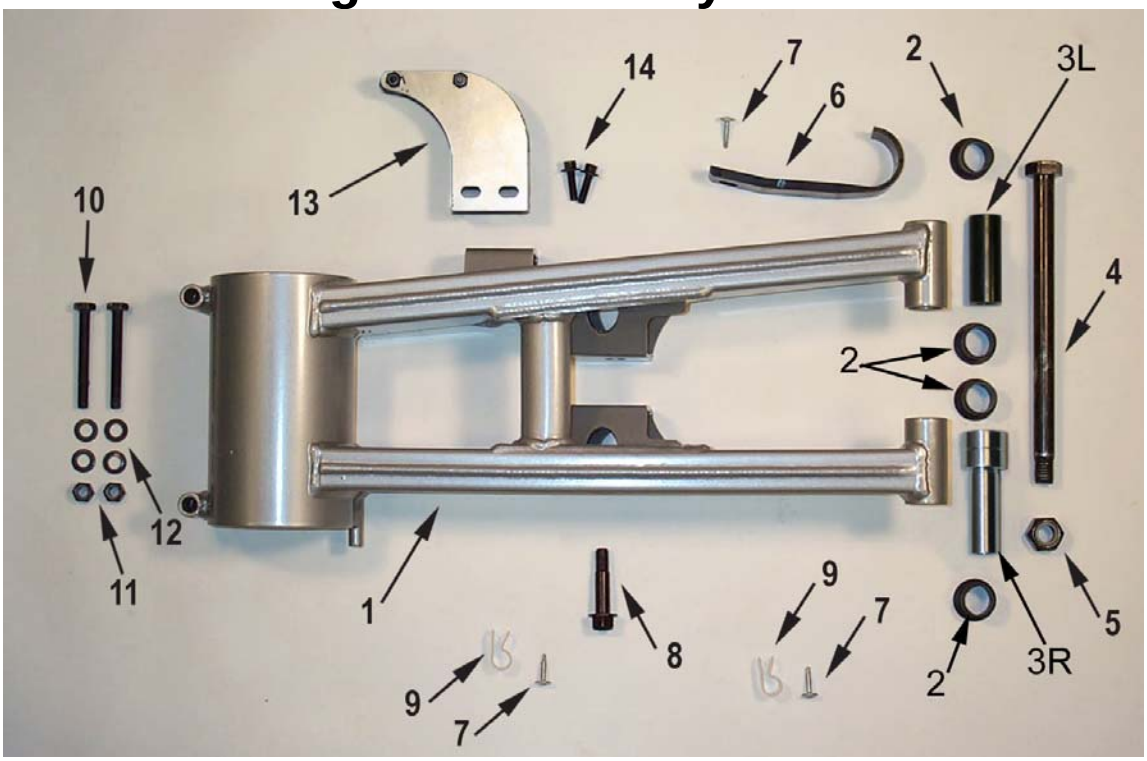


Figure 26

Swingarm		
REF #	PART #	DESCRIPTION
1	GAEX2009	SWINGARM (2009)
2	GCMU0030	BUSHING, SWINGARM (4 PER)
3R	GCE50001	SPACER, SWINGARM PIVOT (RIGHT SIDED / STEPPED SPACER)
3L	GCEX5016	SPACER, SWINGARM PIVOT (LEFT SIDE / TUBE)
4	HCBH1415	SWINGARM PIVOT BOLT (M14 X 2 HEX HEAD)
5	HCNL1402	SWINGARM LOCK NUT (M14 X2)
6	GCEX0050	TOP SWINGARM GUARD – ECX50
7	HCPP0834	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

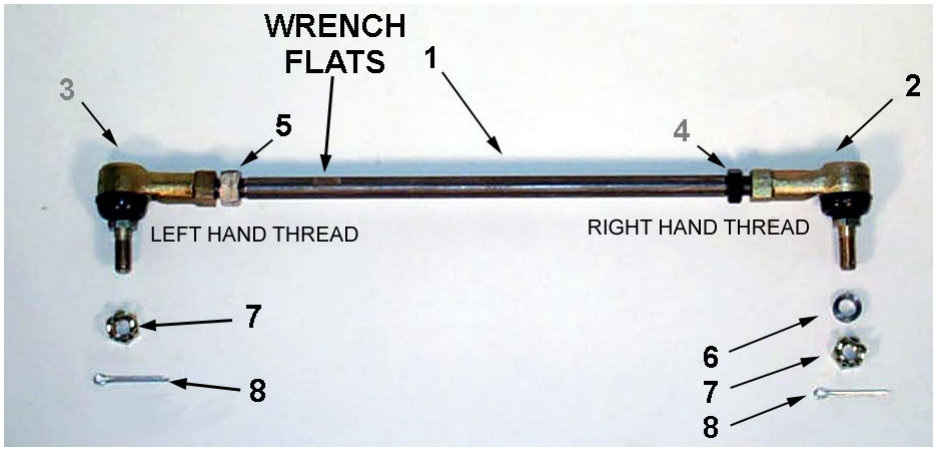


Figure 27

Tie Rod Assembly		
REF #	PART #	DESCRIPTION
	FAEX0002	TIE ROD ASSEMBLY
1	FCEX0015	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)

Service

Trained technicians with precision gauging and proper assembly fixtures carefully assemble all Cobra engines to specific tolerances. If you feel you have the skills, and the appropriate tools, to perform the following service tasks please follow the instructions closely. The part numbers are listed throughout to help you when ordering parts from your local Cobra dealer.

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.

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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