

FKL KARTWORLD GROUP

MFG: FKL KARTWORLD
NAME: GO-KARTS
TYPE: NON-KIDDIE

OWNER AND OPERATOR MANUAL

★★WARNING★★

READ MANUAL CAREFULLY

BEFORE OPERATION

OF ANY EQUIPMENT

FKL CONCESSION KARTS

WILDCAT

TIGERCAT

IROCK

V.W.

LEOPARD



This service manual has been prepared as a guide for the mechanic servicing the FKL concession go-kart.

All information in this publication is based on the latest product information available at the time of publication. FKL reserves the right to make changes at any time without prior notice.

The FKL concession model go-karts are designed to withstand the wear and tear required by a concession kart, but like all good equipment, they require a scheduled maintenance program. Following the guidelines of this manual will not only insure the safe, efficient operation of the kart, it will also enable the mechanic to recognize potential problems before they happen, thereby insuring that your kart will operate at its potential during your money-making hours of operation.

DAILY MAINTENANCE CHECK

1. Tire check
2. Crankcase oil
3. Oil clutch (chain drive VW models only)
4. Oil chain (chain drive VW models only)
5. Body bolts (secured)
6. Wipe down bodies

WEEKLY MAINTENANCE CHECK

FRONT ENDS

1. King pins and spindles
2. Tires - wear, air pressure and wheel bolts
3. Wheel alignment
4. Grease and oil all moving parts

REAR ENDS

1. Belt or chain
2. Axle bearings
3. Brakes
4. Air filter
5. Spark plugs
6. Tires - wear, air pressure and wheel bolts
7. Veri hub (not on the VW)
8. Drive gear and washer
9. Throttle linkages
10. Oil levels - crankcase (and RD case)
11. Motor mount bolts

THE BODY

The body of the FKL concession go-kart is constructed of a special polyethylene. To maintain the cosmetic appearance of the body, we at FKL suggest an armor all type protectant. (We have tried various different brands of this type of product and have found products made by ZEP INDUSTRIES and EAGLE 1 or ARMOR ALL to be the most economical). By simply filling a 12 oz. bottle and spraying it onto the bodies, then using a clean rag to wipe all the exposed portions of the body, you will restore a shine to the surface.

BODY FASTENING

The body of the kart is bolted to the frame of the kart in three (3) places, two located at the rear of the kart and one located at the front. To remove the body, simply remove the body nuts.

SURFACE PREPARATION - DECAL APPLICATION

Before applying the decals to the polyethylene kart body, the following procedures should be followed:

1. Remove all surface dust or dirt, using soap and water; dry with a clean cloth.
2. Saturate a clean cloth with LACQUER-THINNER* or NAPTHA* (DO NOT USE OTHER SOLVENTS) and wipe the area where decal is to be applied. Dry the surface before the solvent evaporates.
3. Using a propane torch, and exercising care and caution, pass a flame lightly over the surface -- ensure that the flame does not dwell on any location to damage (melt) the plastic.
4. Test the treated area by applying some water. If properly prepared, the water will "sheet" rather than form beads.
5. Ensure the surface is clean and dry and COOL!, then carefully apply the decal.

*Additional care must be taken with painted bodies. Do not allow solvents to touch the painted surfaces and use propane torch only on unpainted areas.

TIRES AND TUBES

The tires should become part of a daily maintenance check. Each morning before operating your karts you should conduct a visual inspection of the front and rear tires. Should the cords of the tire be showing replace the tire. This will eliminate tube consumption and down time during busy periods due to a flat tire.

RECOMMENDED TIRE PRESSURES FRONT - 20 - 28 lb.
 REAR - 24 - 32 lb.

(NOTE: LOWER PRESSURE IN COOL TEMPERATURE EG 50, INCREASED PRESSURE WHEN HOT, EG 80 OR MORE)

OIL CHECK/CRANKCASE

Fill the crankcase with oil through the gray plug at the bottom of the side cover. To ensure that your engine does not run dry of oil you should check the oil each and every running day. The oil should be filled until oil is visible on the bottom of the threads on the sidecover. Refer to HONDA engine manual.

OIL CHECK RD BOX - NOT APPLICABLE TO VW KIDDY KART

Should your kart engine come equipped with reduction drive you should also check the oil level in your weekly maintenance schedule.

SPARK PLUG

During your weekly maintenance check it is a good idea to remove the spark plug and clean it, or if necessary replace it. At the same time, ensure that the plug cap is 0.02-0.03 in. The gap of the plug is pre-set on NGK plugs but upon occasion does require adjustment.

AIR CLEANER

Cleaning the air filter element during your weekly check is also a good idea. You should wash the element in a detergent and then dry. If you have access to an air compressor it is often adequate to simply blow the element from the inside and re-install. (Refer to HONDA Manual)

DRIVE GEAR (BELT DRIVE ONLY)

The drive gear located on the crankshaft requires little maintenance. During your weekly maintenance check you should ensure the drive gear is fastened securely and the washer is tightly fastened as well. Should the washer not be in place the belt will shift resulting in either the belt coming off the gear or shredding the belt. The gear should also be tightly secure or it may shift resulting in the belt slipping or tearing.

BELT & CHAIN ADJUSTMENT

There may be an adjusting screw on the back side of the motor mount to allow you to tighten or loosen the tension of your belt or chain. If a large adjustment becomes necessary for whatever reason then you will be required to loosen the motor mount bolts and slide the whole engine in the appropriate direction. These bolts are located on the four corners of your motor mount and are easily loosened with a half inch wrench.

VERI HUB; REDUCTION DRIVE BELT NOT ON THE VW

If your FKL concession kart is equipped with a reduction drive, with a belt, then your veri hub will have a large gear on it in which the belt rides. It is important to make sure that the belt is running on the entire width of the gear to increase the longevity in life of your belt. The position of this gear depends upon where your veri hub is positioned on the axle. To move the veri hub, loosen the allen bolts and tap it with a hammer in the necessary direction and secure it.

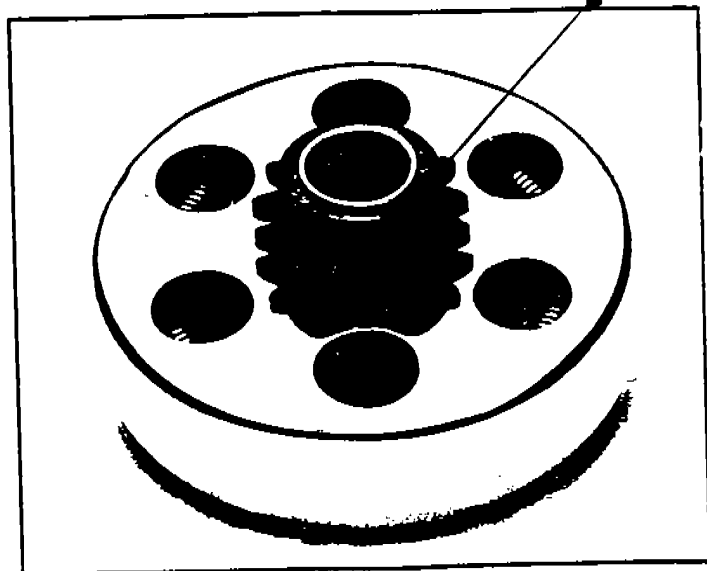
CENTIFUGAL CLUTCH (V.W. ONLY)

OIL HERE DAILY
(UNDER C-CLIP ONLY)

If clutch engages at idle:

1. chain too tight
2. bushing worn out
3. insufficient oil on bushing
4. idle too high

(SEE HONDA OWNERS MANUAL)



CARBURETOR

In the event of carburetor problems, either because of dirt or water, it will become necessary to disassemble the carburetor. The float chamber then should be thoroughly cleaned and the main jet removed. This is done by inserting a small screw driver in the body of the carb, then flipping the carb upright and tapping the body until the main jet falls out. This can be cleaned by blowing air through it. The float is held in place by a small pin which can be removed by simply pushing it out. During reassembly finger push to check for free movement of the float.

FOR ALL OTHER ENGINE REPAIRS PLEASE CHECK YOU HONDA SHOP MANUAL (AVAILABLE THROUGH FKL/KARTWORLD ORDER DESK)

AXLE BEARINGS

All FKL model concession karts run a live axle (4 bearing) or split axle (6 bearing) drive system. It is very important to ensure these bearings remain tightly fastened to both the axle and the frame. This can be done by ensuring that all bolts are secured and that the set screws located on the bearing are tightly secured as well.

This maintenance procedure should be included in the weekly maintenance check. Should you fail in doing so the axle bearings will eventually begin to spin on the axle. This often results in the axle heating up at that point and it may eventually break. In the event of this happening, you are faced with replacing not only the broken or bent axle but the bearing as well. This job (replacing the axle) is both expensive and time consuming as it requires removing all parts from the axle and placing them back on the new axle.

BRAKE ADJUSTMENT (MECHANICAL 1991 & OLDER) IROCK, WILDCAT AND TIGERCAT

The FKL kart is outfitted with a disc brake system. This type of system requires some maintenance after use. The brake pucks do wear out, much the same as on any car, and need adjustment from time to time. To do this adjustment, loosen the jam nut located on the brake casing - turn the bolt in until a slight resistance can be felt when the axle is turned by hand. Re-tighten jam nut.

Periodic inspection should be made of the pucks also to prevent possible damage to the brake disc. (see sketch)
(Fig. 2:1)

MECHANICAL BRAKE SYSTEM

FIG. 2:1

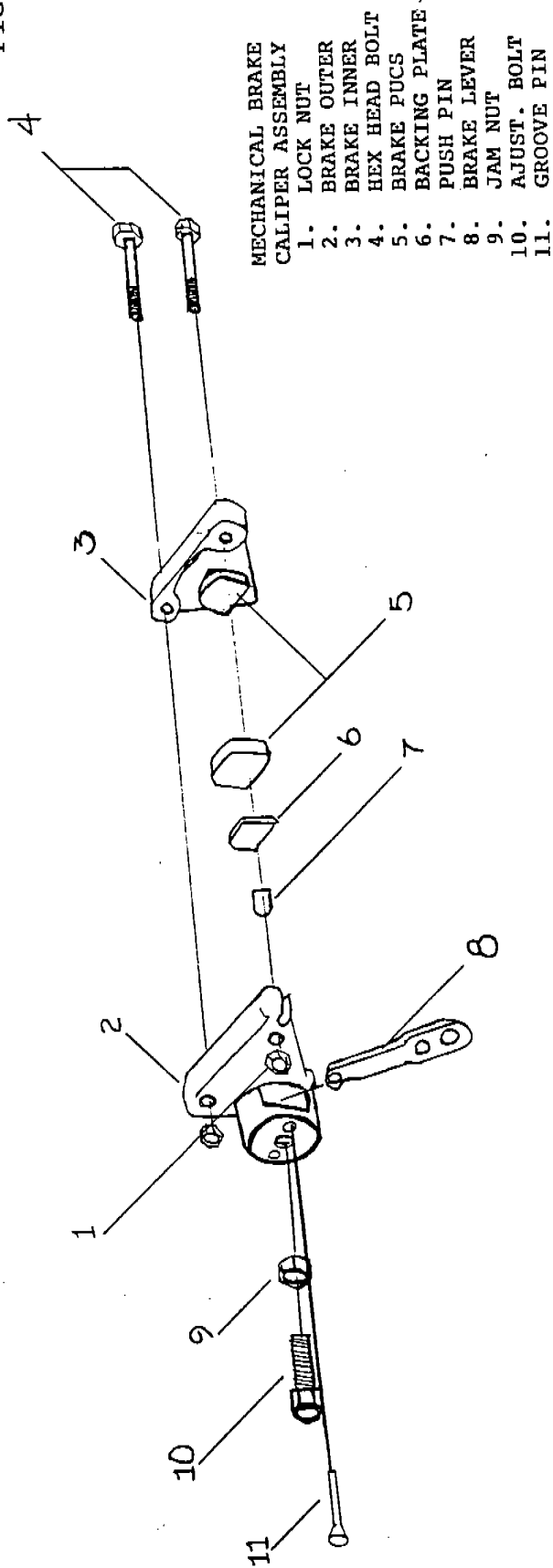
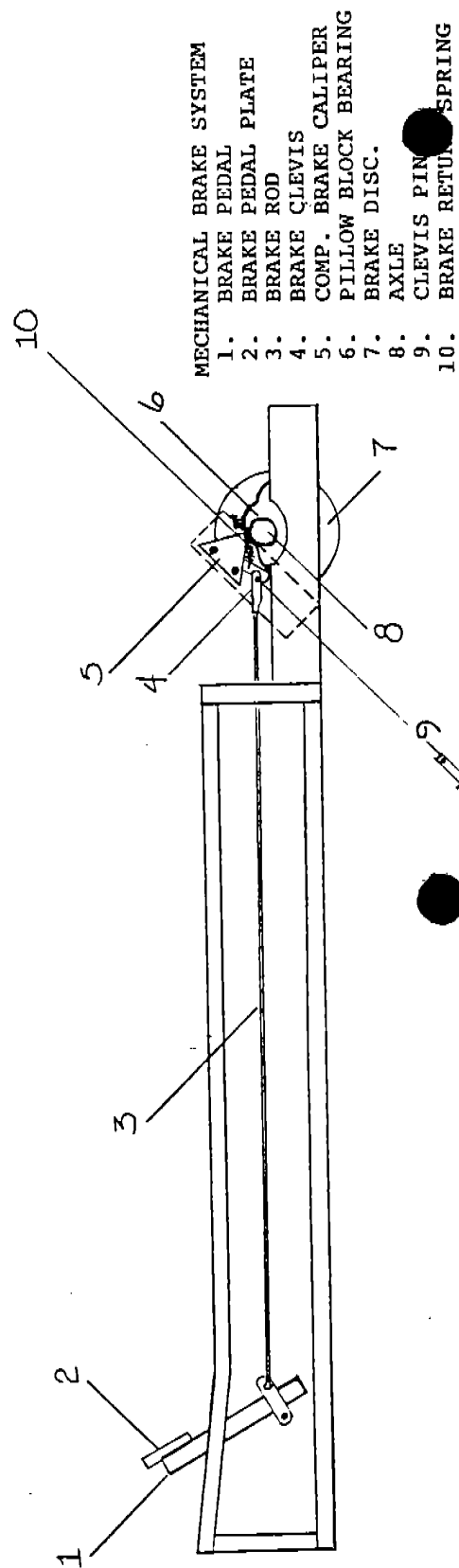


FIG. 2:2



HYDRAULIC BRAKES

Owners of FKL karts purchased after August 1991 (all Leopards) are equipped with a hydraulic disc brake system. Use only a mineral base brake fluid, not automotive.

Recommended fluid is available thru the FKL parts desk.

Puc Gap - Use 1/4 inch allen wrench to turn adjuster bodies evenly for desired pad gap.

Puc Removal - Remove caliper from disc, use 3/16 inch allen wrench to remove and replace puc. (see Fig.3:2)

FIG: 3:1

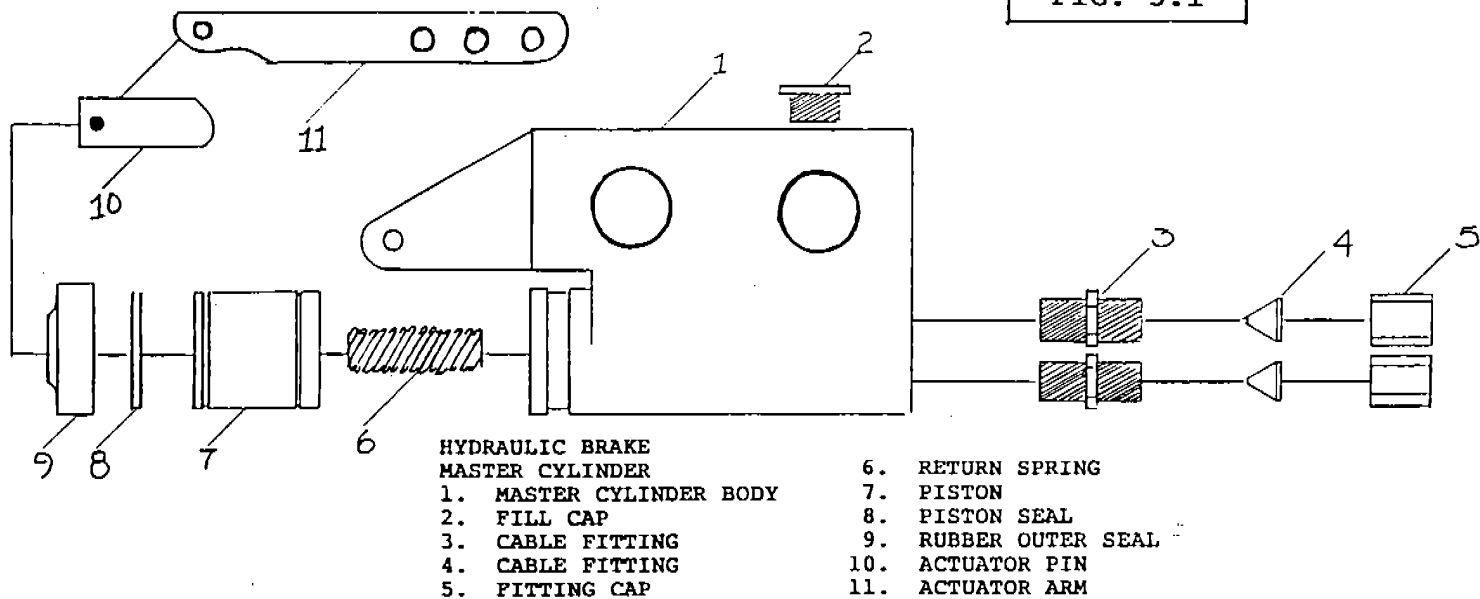


FIG. 3:2

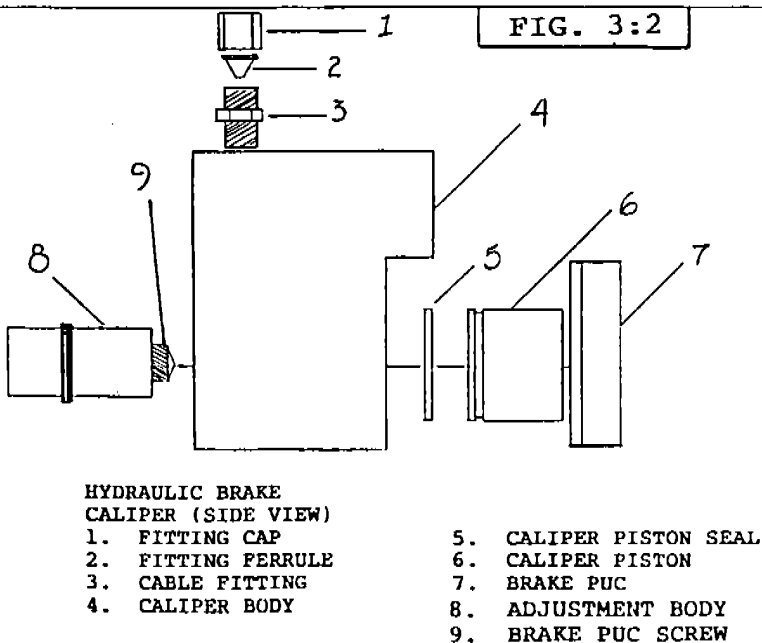
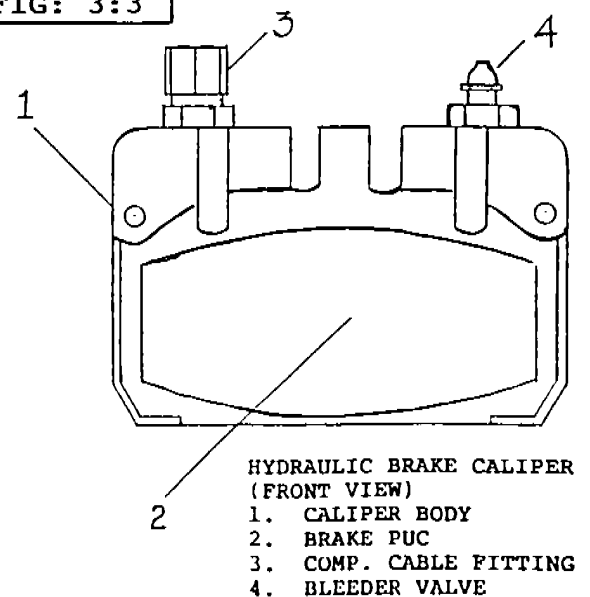


FIG: 3:3



Hydraulic brakes periodically may require bleeding (removal of air from system).

To do so simply remove master cylinder fill cap (Fig. 3:2 #2) loosen bleeder valve on caliper (Fig. 3:3) #4 and with puc hose (2 feet) over end of bleeder screw, draw brake fluid through system using mouth*. Take caution not to empty master cylinder of hydraulic fluid.

*NOTE: Take caution not to bring fluid into mouth, a vaccum pump may also be used.

This operation may require 2 people, ie: one to add fluid to master cylinder as one is drawing fluid from caliper. When air bubbles stop coming from bleeder valve, tighten valve before drawing from the puc hose. Systems which are equipped with two caliper assemblies (Fig. 1:1), "A" caliper must be bled before "B" caliper.

HYDRAULIC BRAKE SYSTEM

1. BRAKE PEDAL PLATE
2. BRAKE PEDAL
3. BRAKE ROD
4. MASTER CYLINDER
5. BRAKE LINE
6. BRAKE DISC.
7. AXLE
8. BRAKE CALIPER HALF

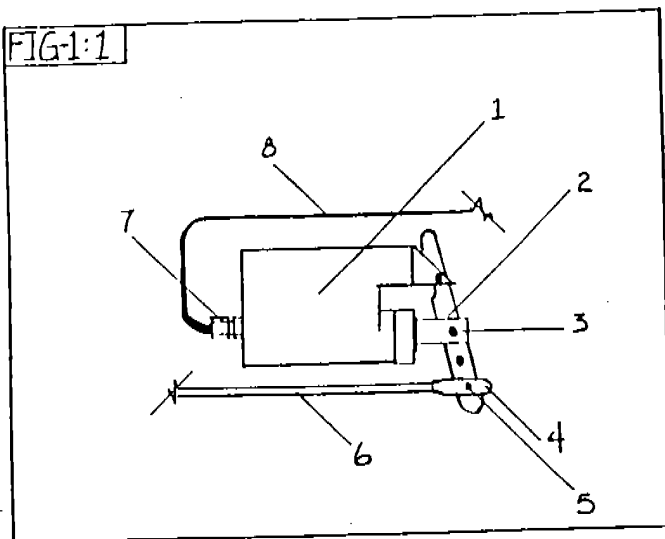
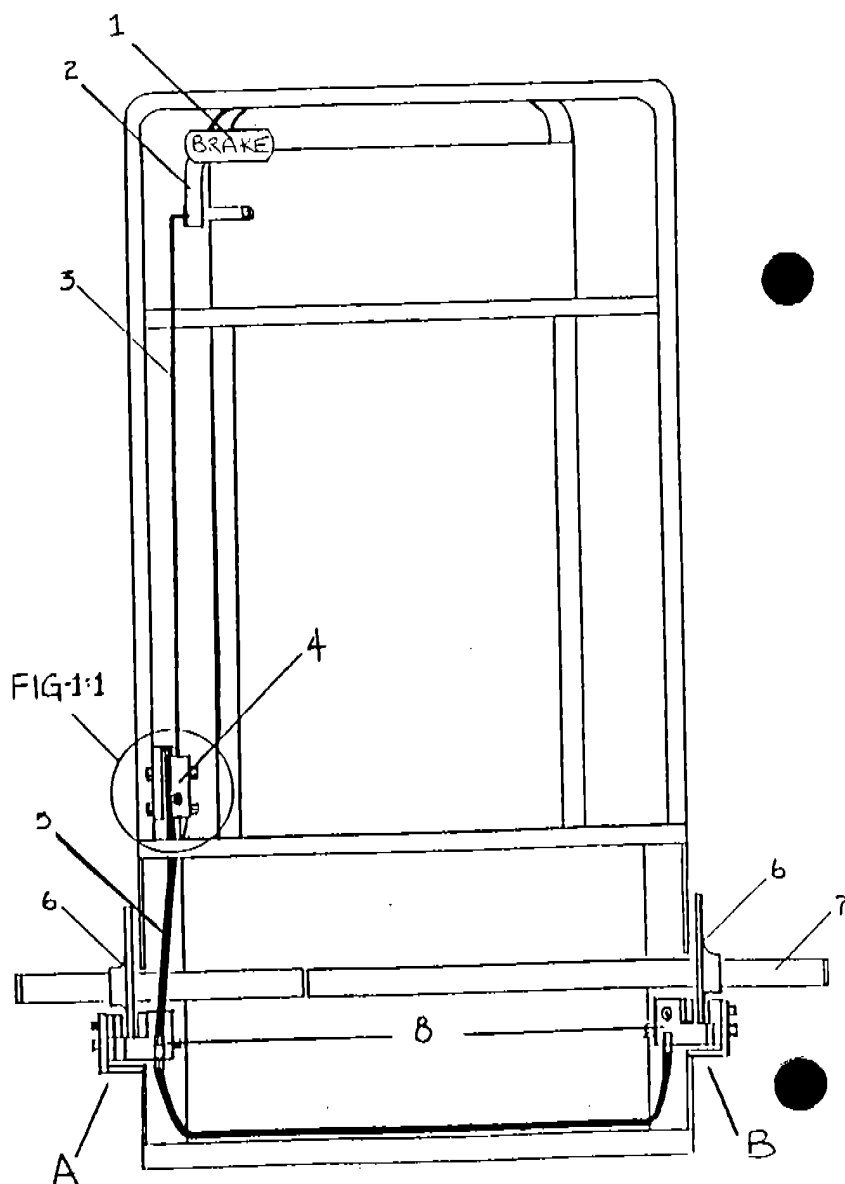


FIG. 1:1

1. CYLINDER BODY
2. ACTUATING ARM
3. ACTUATING PIN
4. BRAKE CLEVIS
5. CLEVIS PIN
6. BRAKE ROD
7. COMP. CABLE FITTING
8. BRAKE LINE



FRONT END ALIGNMENT

Place the steering to the centre position. Then mark a chalk line on the centre of the tires.

Next measure the distance from the centre of one tire to the centre of the other tire (hereafter known as measurement "1"). Then rotate the tires 180 degrees and measure (from the back of tires) the centre on one tire to the centre of other tire. (Hereafter known as measurement "2"). Should the distance between measurement "1" and measurement "2" vary by more than 1/4" then you will be required to make an adjustment. This can be done by unbolting the tie rod ends from the spindles and winding the tie rod end in or out depending on your situation. Should measurement "1" be a shorter distance than measurement "2" then turn the tie rod ends out on the tie rods. It is important however that you split the distance between the two sides.

NOTE: EACH FULL (360 DEGREES) TURN OF THE TIE ROD END ON THE TIE ROD IS EQUAL TO APPROX. 1/8" DIFFERENCE IN THE TOE-IN OF THE TIRE.

EXAMPLE:

MEASUREMENT "1"	=	34"
MEASUREMENT "2"	=	36"

Therefore you must bring both wheels out by 1". Half an inch on the left side and half an inch on the right side. Unfasten the tie rod ends located on the spindles and turn them out four turns and resecure them to the spindle.

Should measurement "2" be smaller then measurement "1" then you must exactly the opposite.

EXAMPLE:

MEASUREMENT "1"	=	36"
MEASUREMENT "2"	=	34"

You must therefore turn the tie rod ends in on the tie rods four turns on each side to correct the problem.

KING PINS & SPINDLES (equipped on 1991 and older)

All parts located in front of the seat of the kart are considered to be front end parts. The front end maintenance is a very important part of your maintenance schedule.

To check for loose spindles it is easiest to rotate the steering wheel to the full lock position in either direction. Next grasp the tire and check to see if you can move the wheel in an up/down motion.

Should you be able to move the spindle then you have a loose spindle required tightening. This can be done by placing either a $\frac{1}{4}$ Allen Key or a pair of vise grips around the head of the bolt and then tightening (with a 9/16 socket) the nut located at the bottom of the king pin. However, while doing so you should ensure that you have not inhibited the movement of the steering wheel, thereby impairing the steering of the kart by making it too difficult (stiff) to turn for your customer.

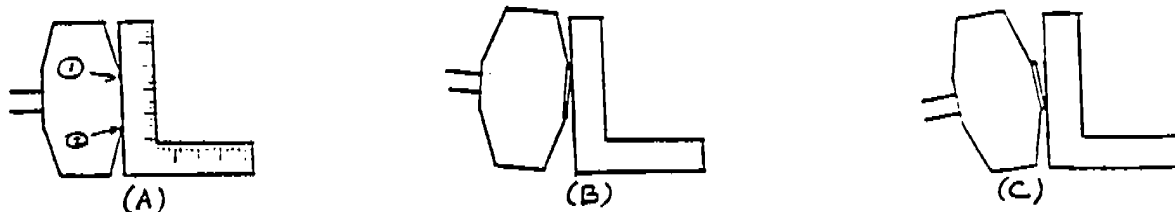
Should you still have play in the spindles after tightening the king pins, then your spindle bushings are worn out. They are easily replaced by banging out the old ones and tapping in new ones. The bushings are located at the top and bottom of the spindle.

THE BUSHINGS ARE LISTED IN YOUR DEALER PRICE LIST UNDER PART #1937.

BENT KING PINS

To check for bent king pins, place a square along the outside of the tire. Should the square touch both the top and bottom of the outside rim half then your king pins are O.K.

ILLUSTRATION I.



You will notice in figure A that the square is touching the tire at both points 1 & 2 and in figures B and C that the square only make contact at either point. This problem can be righted by bending the king pin in the necessary direction to have the square make contact with the rim half at both points.

MOUNTING INSTRUCTIONS FOR
HEAVY DUTY (OPTIONAL) SPINDLES

1. Cut tabs off original spindle yoke, see Fig. 1.
2. Grind tab area only (not the yoke backing plate 'A') to make smooth.
3. Mount 18-950 x 8 tires to spindles supplied
NOTE: Tire diameter must be equal on left and right hand tires.
Diameter of tires is very important. A variation of 3 P.S.I. pressure between left and right hand tires can mean as much as a $1\frac{1}{2}$ " diameter
4. Block up front end of frame 4". Floor must be flat and level.
5. Align the spindle backing plate (Fig. #3-'B') to yoke backing plate using keystock as a guide to ensure all angles are correct.
6. You are now ready to weld the backing plates together.
7. Test drive kart to ensure spindle height is correct. If an adjustment is necessary, simply loosen bolts (#C) and correct height.
8. Tack weld back of bolts (#D) to backing plate "B" to ensure correct height is maintained.

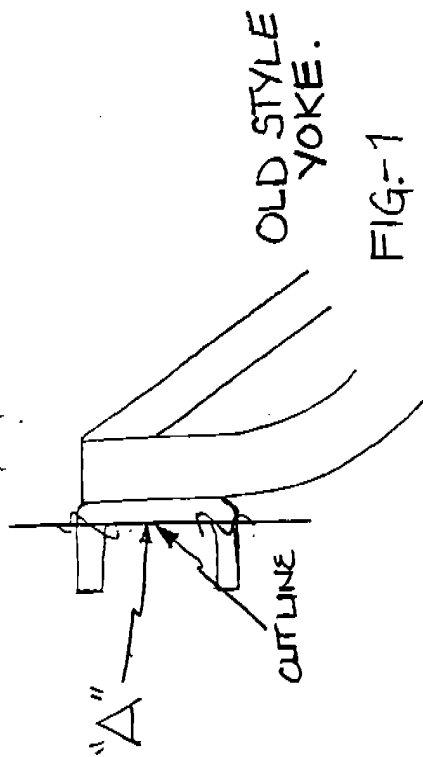
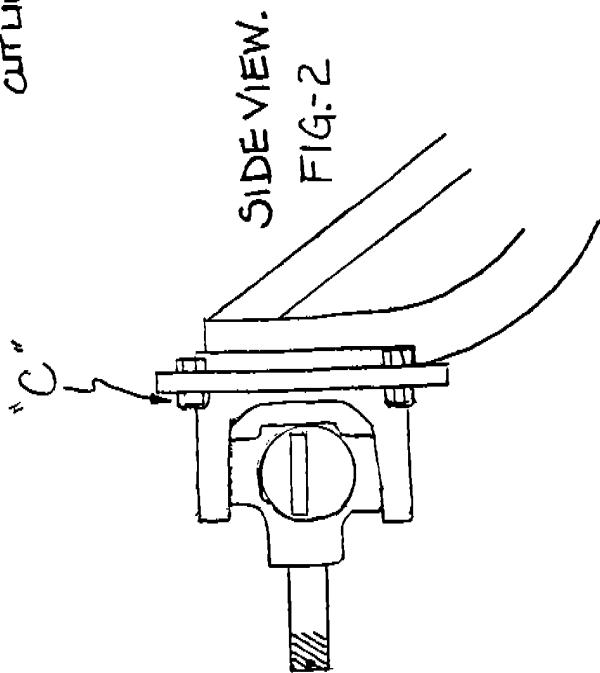
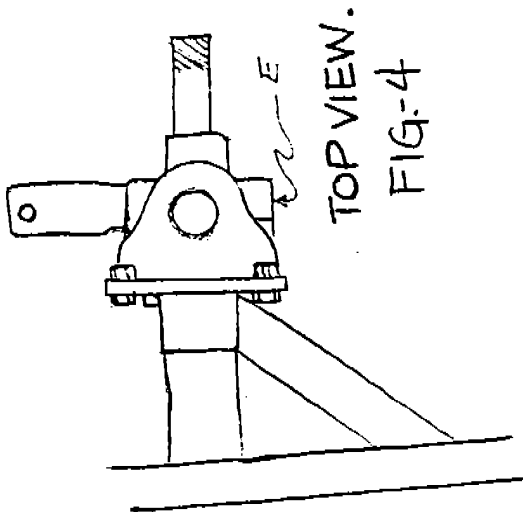


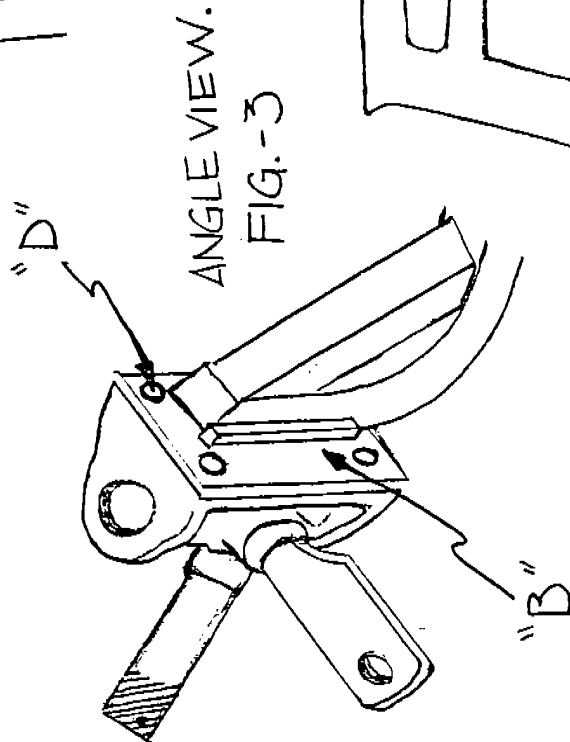
FIG-1



SIDE VIEW.
FIG-2



TOP VIEW.
FIG-4



ANGLE VIEW.
FIG-3

NEW STYLE LEOPARD
YOKE & SPINDLE

F.K.L.

39411314

ACCELERATOR SYSTEM -- ADJUSTMENT

There are two (2) procedures which may be used to adjust speed on your kart.

- #1. By moving cable locks, Fig. 1:1 #6.
ie: moving front cable lock forward will slow kart,
moving back will increase speed.

OR

- #2. Moving accelerator adjustment pin (Fig. 1:2 #3)
ie: moving pin in (toward cable swivel) will slow
kart,
moving back will increase speed.

**NOTE: Both operations may be required to adjust speed and idle properly. If any problems occur, do not hesitate to contact F.K.L./Kartworld Service Dept. (1-416-683-9700 or toll free 1-800-263-3118)

STEERING

The complete steering system should be checked weekly for wear and damage parts. Lubricate tie rod ends and steering shaft bushings weekly to ensure the system does not bind or premature wear does not occur.

IT IS VERY IMPORTANT
TO ENSURE THAT THE
STEERING WHEEL LOCK NUT IS
SECURELY TIGHTENED.
AS PART OF YOUR NORMAL
MAINTENANCE PROGRAM, THIS
SHOULD BE CHECKED AT
REGULAR INTERVALS.

ACCELERATOR SYSTEM

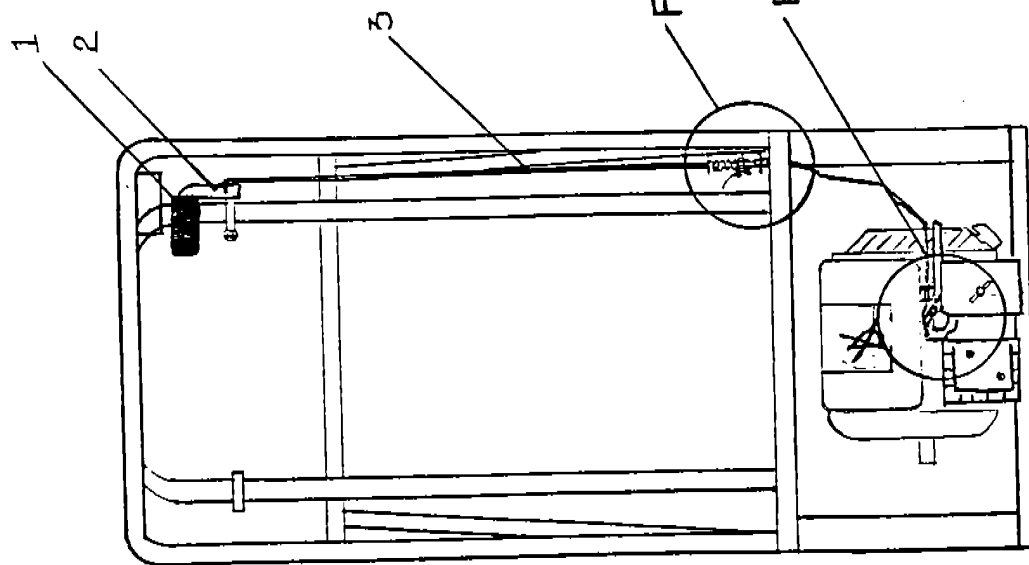


FIG-1:1

FIG-1:2

ACCELERATOR SYSTEM
1. ACC. PEDAL PLATE
2. ACC. PEDAL
3. ACC. ROD

FIG-1:1

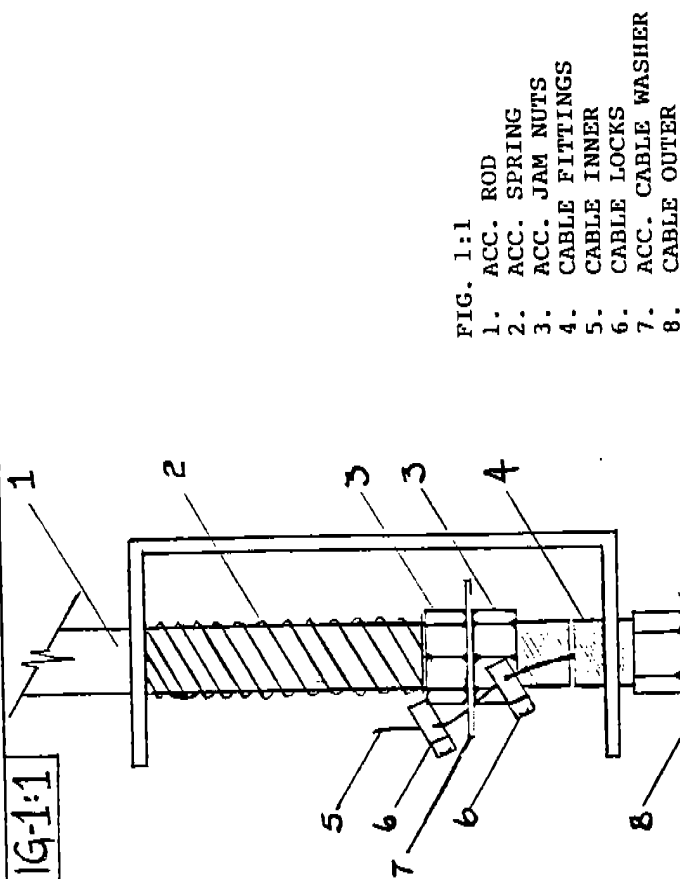


FIG. 1:1

1. ACC. ROD
2. ACC. SPRING
3. ACC. JAM NUTS
4. CABLE FITTINGS
5. CABLE INNER
6. CABLE LOCKS
7. ACC. CABLE WASHER
8. CABLE OUTER

FIG-1:2

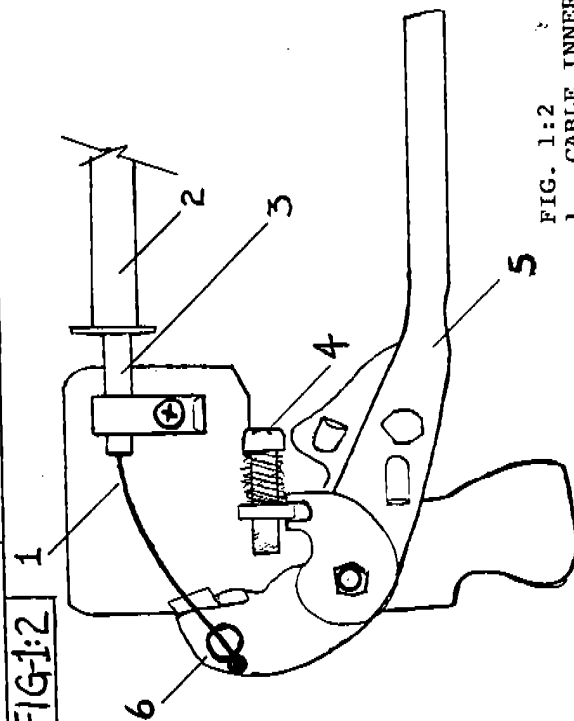


FIG. 1:2

1. CABLE INNER
2. CABLE OUTER
3. ADJUSTMENT PIN
4. THROTTLE ADJUST. SCREW
5. THROTTLE ARM
6. CABLE SWIVEL

****REMEMBER****

**THE ACCELERATOR SYSTEM, THE BRAKING
SYSTEMS AND THE STEERING SYSTEM ARE
THE MOST IMPORTANT AREAS FOR YOU TO
SERVICE AND ENSURE YOUR CUSTOMER'S
SAFETY.**

THESE NEED TO BE CHECKED REGULARLY!!

GENERAL OPERATION SAFETY

DO NOT : REFUEL KART WHILE ENGINE IS RUNNING
DO NOT : REFUEL KART WHILE CUSTOMERS ARE SEATED
IN KARTS

**** ALSO MAKE SURE FIRE EXTINGUISHERS ARE ON HAND ****

**IF YOU HAVE ANY PROBLEMS OR QUESTIONS
ABOUT ANY OF OUR PRODUCTS,
PLEASE CALL 1-800-263-3118**