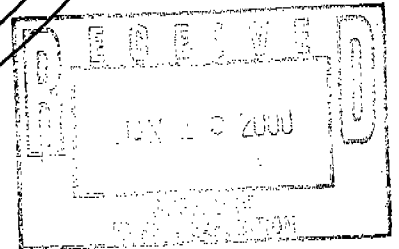
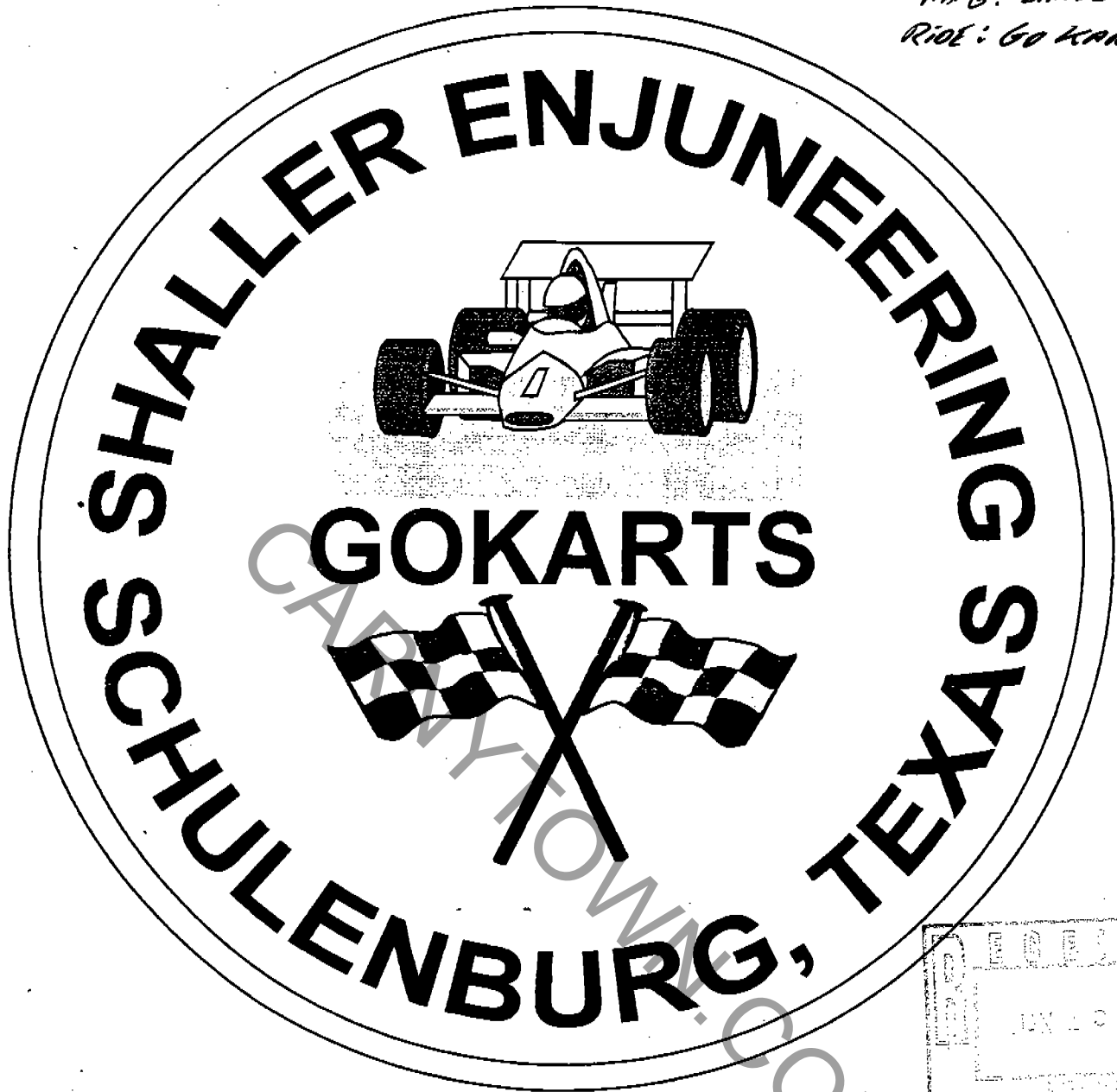


MFG: SHALER
RIDE: GO KART



WARNING

THE ENGINE EXHAUST FROM THIS PRODUCT
CONTAINS CHEMICALS KNOWN TO THE STATE OF
CALIFORNIA TO CAUSE CANCER, BIRTH DEFECTS
OR OTHER REPRODUCTIVE HARM

SHALLER GOKARTS

Table of Contents

- Part 1** INITIAL SET UP
- Part 2** OPERATING RECOMMENDATIONS
- Part 3** RECOMMENDED MAINTENANCE AND INSPECTION PROCEDURES
- Part 4** ADJUSTMENT & REPAIR GUIDELINES

HUB & BEARING	Section 1.1-1.6
a. Hub Removal	Section 1.1
b. Bearing Removal	Section 1.2
c. Race Removal	Section 1.3
d. Race Installation	Section 1.4
e. Bearing Installation	Section 1.5
f. Hub and Wheel Installation	Section 1.6
FRONT SPINDLES	Section 2.1-2.2
a. Spindle Removal	Section 2.1
b. Spindle Installation	Section 2.2
REAR AXLE	Section 3.1-3.2
a. Axle Removal	Section 3.1
b. Axle Installation	Section 3.2
STEERING SHAFT	Section 4.1-4.4
a. Steering Shaft Removal	Section 4.1
b. Bushing Removal	Section 4.2
c. Bushing Installation	Section 4.3
d. Steering Shaft Installation	Section 4.4
BRAKES	Section 5.1-5.2
a. Brake Replacement	Section 5.1
b. Brake Adjustment	Section 5.2
THROTTLE ADJUSTMENT	Section 6.1
BELT TENSION & REPLACEMENT	Section 7.1-7.2
a. Belt Tension	Section 7.1
b. Belt Replacement	Section 7.2
TIRE ALIGNMENT PROCEDURE	Section 8.1
ALUMINUM SIDE PANELS	Section 9.1-9.2
a. Side Panel Removal	Section 9.1
b. Side Panel Installation	Section 9.2
UPHOLSTERY	Section 10.1
WHEEL STUDS	Section 11.1-11.2
a. Stud Removal	Section 11.1
b. Stud Installation	Section 11.2

SHALLER GOKARTS INITIAL SET-UP PROCEDURE

Shaller GoKarts come completely assembled, but without oil and gas. The following steps must be accomplished before attempting to operate the Karts.

Step 1

Fill both the gearbox and crankcase with oil. For general all-temperature use, Honda recommends SAE 10W/30 with a service classification of SG, SF. For temperatures above 85 deg. F, SAE 30 is recommended. Additional information can be found in the Honda owner's manual.

Step 2

Fill Kart with gas; regular leaded or unleaded gasoline can be used, provided it has a pump octane rating of 86 or higher.

Step 3

Set the tire pressure; this is done primarily to maximize performance, tire wear, and ride comfort. Though it will vary from one operation to another, we recommend the following:

Single Seater

5.5 HP Regular Rims -- Min. 25 psi/Max. 40 psi
(with heavy duty rims -- Min. 25 psi/Max 50 psi)
8 or 9 HP Regular Rims -- Min. 40 psi/Max 40 psi
(with recommended heavy duty rims -- Min. 40 psi/Max 50 psi)

Two-Seater

Min. 40 psi/Max. 50 psi

Step 4

Set the speed; this is done by adjusting the bolt which provides the stop for the gas pedal (on right). Generally, the standard GoKarts are designed to operate at speeds ranging from 16-22 MPH. This can be done one of two ways. #1: Set one GoKart at the speed you want to run at. Then another driver can follow this GoKart (the "standard") with each of the others, adjusting the speed so that they are all the same. #2: A simpler, but slightly less accurate method, is to raise the left rear tire off of the pavement using a block and checking the RPM of the engine with a wireless tachometer while the throttle is fully depressed. This should be done on the "standard" GoKart which you have determined to be the right speed for your track. Then, simply set all the remaining GoKarts to this RPM. A Dixon wireless tach can be purchased from Northern Hydraulics (800-533-5545). On the non-bodied GoKarts, the rear throttle stop must then be set by depressing the gas pedal fully (engine stopped) and screwing out the rear stop bolt until it almost touches the linkage. With new Powermaster tires (36 7/8" circumference), the following formulas can be used:

$$\text{RPM} = 182.13 \times \text{MPH} \text{ or } \text{MPH} = .0055 \times \text{RPM}$$

After the initial set up is completed, read both the Honda owner's manual and the recommended operating, maintenance, and inspection procedures before putting the Karts into use.

OPERATING RECOMMENDATIONS

SINGLE-SEATER

A minimum height of 54" is recommended for Karts operating at a speed of 18 mph or less. If a rider cannot reach the pedals while restrained against the seat back, a **Kiddie Cushion** (6" foam pad) should be used. In all cases, the riders should be able to reach and control the pedals while being securely restrained against the seat back or the **Kiddie Cushion**.

Karts operating in excess of 18 mph should be restricted to drivers of at least 60" in height.

Shaller Single-Seater Karts have a maximum capacity of 300 lbs., and are designed for use by only one person.**

TWO-SEATER

The driver should be a minimum of 16 years old and possess a valid automobile driver's license. The passenger should be a minimum of three years old and at least 36" in height.

In order to prevent passenger injury, make sure that the seat belt and shoulder harness is tight. Adjust the passenger steering wheel with quick release pin so that the steering wheel is as far forward as possible with the passenger still being able to reach the grips on the steering wheel. This distance should be arm's length (minimum: 12 inches).

Shaller Two-Seater Karts are designed for use by two people, one driver and one passenger. The maximum capacity is not to exceed 300 lbs. per person. The maximum combined weight should not exceed 500 lbs.**

KIDDIEKART

A minimum height of 36 inches is recommended for KiddieKart riders. All riders must be able to reach the pedals while properly restrained against the seat back. A maximum height of 48 inches is recommended.

SEATBELTS

The use of the safety harness is mandatory and if they are not in acceptable condition (no tearing or fraying), the **GoKart should not be operated**. It is recommended that the safety harness be checked for proper adjustment on every rider before each ride.

SPEED

Speeds will vary depending on track configuration. In any case, a maximum speed of 22 mph is recommended. ** Any person or persons operating or riding in a *Shaller* GoKart must be properly seated within the confines of the seating area and sufficiently restrained with a harness.

Recommended Maintenance and Inspection Procedures

DAILY INSPECTION (Body should be removed for the following procedures.)

Each day before the start of operations, it is recommended that a thorough visual inspection of each GoKart be performed and documented. This inspection should include, but not be limited to:

Engine -- Check oil levels in both the crankcase and gearbox (2:1 reduction with centrifugal clutch). Be sure the Kart is on a level surface with the engine turned off. Honda recommends the engine crankcase be filled to the top of the filler neck and the gearbox be filled to the upper level mark on the dipstick (about a 1/2" from bottom of dipstick). To check, insert the dipstick into the filler neck, but do not screw in. If low, fill to proper level. A good grade of 10W-40 is recommended; do not overfill. It is further recommended that you read the Honda owner's manual before performing any service on the engine.

Tires & Wheels -- Check for low or flat tires. Try kicking the tire to see if it's low. You won't necessarily know a tire is low by just looking at it. A maximum tire pressure of 40 psi is recommended for Karts with regular rims. For Karts with heavy duty rims, a maximum pressure of 50 psi is recommended. Also, inspect the wheel for cracks, especially around the mounting holes. If a problem is found, replace the wheel immediately. Check to make sure each wheel has three lugnuts and that they are tight. Take a moment to look at the front tires; make sure they are both pointed straight ahead (0" toe in or out). Consult Setup Sheet for recommended tire pressures.

Safety Harness & Padding -- Every *Shaller* GoKart comes equipped with a safety harness, steering wheel pad and crotch pad. These items should be kept in good condition. If any of these items are missing or not functioning properly, **THE GOKART SHOULD NOT BE OPERATED**. It is mandatory that the safety harness be inspected daily for any tears or fraying. If the belt is frayed or torn at all, the belt must be replaced **BEFORE THE GOKART IS OPERATED**.

Brake & Throttle -- Check the brake to make sure there is enough "pedal" to stop the GoKart. One way to do this is to try and pull the Kart forward by pulling on just the brake pedal. You should not be able to do this without sliding both rear tires. Also, check the throttle. With the engine turned off, fully depress and release the throttle pedal; it should move freely and return to the idle position. Check all linkage connections to be sure there are no missing or broken fasteners. If the brake and throttle are not functioning properly, **DO NOT OPERATE GOKART**.

Steering -- Turn the steering wheel from left to right. Check for any binding or sticking. Inspect the tie rods for any missing or broken hardware. Remove the pad and inspect the steering wheel for cracks.

Fuel System -- Inspect the fuel tank(s) and fuel lines for leaks. Check the condition of the cap and filler neck making sure that the cap fits snugly and the sealing surface of the neck is in good shape. Be sure the tank is secure and that there is no loose or missing hardware. On Karts equipped with the optional fuel tank, be sure that the tank is resting properly in the receptacle and that it is strapped down. Any problem should be corrected before putting the Kart into service.

Bumper -- Walk around the Kart and inspect the bumper; check to see if it is cracked or broken. Look for loose or missing hardware; check the "D" bumpers and nerf bars. A cracked or broken bumper should be replaced, **do not weld**. Kart should not be used until the bumper is replaced.

Test drive the Kart, be alert to how the Kart performs, noting any unusual conditions. If your Karts are equipped with a remote shut off system, check to see that it is working properly. Notify your supervisor or mechanic of any problems you may have found.

WEEKLY MAINTENANCE

Air Cleaner -- Remove the wing nut and the air cleaner cover. Inspect the air cleaner, if it is dirty, remove the foam element and wash it out in a non-flammable solvent. Squeeze out excess solvent. Apply some oil to it and squeeze again to distribute the oil evenly and to remove any excess oil. If the element is torn, replace it. Inspect the paper element by looking through the paper at the sun. If dirty, blow through it with compressed air from the inside out. If it's excessively dirty, replace it. Different tracks and conditions will dictate how often the air cleaner must be cleaned or replaced.

Engine Oil -- During the peak season, change the oil in the crankcase once a week. You might want to follow Honda's recommendations in their manual, but this is what we suggest. The easiest way to do this is to suck the old oil out with a vacuum can which can be purchased from J.C. Whitney or Northern Hydraulics (see last page of this section). Then, by trial and error, pre-mark a clean container so that you can pre-measure the correct amount of oil and pour it in. This can be done in less than a minute, and it is probably the most important thing you can do to extend the life of your engine. It takes a little more than 1/2 qt., so cost is negligible.

Cleaning & Inspection -- After you have completed the oil change, it is suggested that you wash the Kart to remove dirt and grease buildup. This not only helps to enhance the appearance of your Karts, it also allows you to more closely inspect the chassis for any cracks or breaks. Although it is very rare; if a break or crack is detected, contact **Shaller** to discuss the most suitable way to repair the problem. Continue to inspect the Kart for any loose hardware. Document all your repairs and maintenance.

MONTHLY MAINTENANCE

Check all four wheel hubs for adjustment. They should have a slight drag. The spacer that the seal rides on **should not turn**. Too loose and the spacer and bearing will turn on the axle and the wheel will have slop. Too tight, and there will be too much drag and premature wear of the bearing will occur. A little too loose is better than a little too tight. To adjust, back off the locknut about 1/4 turn. Manually turn wheel and watch the spacer. Gradually tighten locknut until spacer stops turning, then tighten about 1/16 additional turn.

Check brake pedal for travel. If excessive travel exists before resistance felt, remove clevis pin or bolt on the brake control rod (rear) and shorten.

Grease front spindles via grease zerk.

Change oil in the gear box. If it comes out clean, you could have gone longer. If it has darkened or smells burnt, you need to do this sooner, perhaps weekly. Different tracks and different methods of operation require different time intervals for this. Keeping riders from holding down on the gas and the brake at the same time will increase the life of the the gear box oil.

The belt tension should be checked. It will run pretty loose but it is recommended that it be tight. To tighten, loosen the four engine mounting bolts. Pry the engine back with a pry bar or get someone to hold back on the engine while they are retightened. Sometimes it works better to tighten a certain bolt first. The belt will not stretch, but wear will cause the belt to loosen over a period of time. If you cannot tighten the belt using the above procedure, place four 5/16 fender washers (available from Dorman Products through your local auto parts store) under the engine (one on each bolt) to shim the engine up. This will regain the original adjustment.

SEASONAL MAINTENANCE

Repack all of the wheel bearings with grease. We use Pennzoil 705. Adjust drag as previously described. Make sure the 3/4" locknuts (1" on rear of Two-Seater) have enough friction so that a medium resistance is felt using a wrench. It would be a good idea to replace the spark plug (use only NGK) and set the valves. Consult your Honda manual for specs.

If you are going to store your Karts in the winter, drain all the fuel from the tank by removing the drain plug on the bottom of the carb fuel bowl. Also, remove sediment bowl, empty and clean, and reinstall. Also, remove spark plug and pour a couple of ounces of Shaler Rislone oil into the spark plug hole and pull the starter cord very slowly a couple of times to distribute oil on cylinder. Replace spark plug. Leave the oil in the crankcase, but replace when you return the Karts to service.

Note: "Red" Loctite (#271) on the steering hub, front and rear wheel studs, the bolts that hold the brake drum on, and the bolts on both ends of the bias bar. Use heat from a propane or acetylene torch before trying to remove these (remove while hot). "Blue" Loctite (#242) is used on all upholstery bolts which does not need heat. After removing the "Loctited" part, reinstall the part using the Loctite that was used on it originally.

The part numbers from *Northern Hydraulics* (1-800-533-5545):

16091 Wireless Small Engine Tachometer
33226 Topside Oil Changer

The part number from *J.C. Whitney* (312-431-6102):

14XX7418A Topside Oil Changer

ADJUSTMENT & REPAIR GUIDELINES

(Body should be removed for the following procedures.)

HUB & BEARING

- 1.1 Hub Removal:**
- 1.1.1 Raise the Kart by placing on a block or stand.
 - 1.1.2 Remove the wheel.
 - 1.1.3 Remove the axle locknut. (*Note: If you are removing the drive hub on a non-bodied Kart, you will have to remove the belt guard.*)
 - 1.1.4 Slide the hub off the axle. (*Note: Occasionally the hub may stick to the axle shaft; if this happens, gently tap on the back of the hub with a soft hammer.*)
- 1.2 Bearing Removal:**
- 1.2.1 Remove spacers. Using a wide, flat blade screwdriver, carefully pry out the grease seals.
 - 1.2.2 Remove the bearings and clean bearings, seals, and races with solvent, as well as the rest of the hub.
 - 1.2.3 Inspect both bearings and races for wear and pitting. If worn, replace as a set (see Sec. 1.3 for race removal).
- 1.3 Race Removal:**
- 1.3.1 **Method I** -- Using a heliarc torch, run a bead around the inside bearing surface of the race (no filler rod). This will shrink the race. Let cool before removing.
 - 1.3.2 **Method II** -- Using an acetylene torch with a rosebud tip, heat up the hub and, the bearing races will literally fall out. Keep in mind that both races become loose when the hub is heated. If the bearing race freezes before dropping all the way out, the use of a pin punch and a hammer will be necessary. Place the hub on a flat work surface and insert the punch through the opposite side of the hub. Hammer on the edge of the race in different locations until the race is removed.

1.3.3 **Method III** -- Same as **Method II** except the lack of heat.

**1.4 Race
Installation:**

1.4.1 **Method I** -- Use an acetylene torch with a rosebud tip to heat up the hub. If the hub is hot enough, the bearing race will drop in place. If it "freezes", before it is in position, use a pin punch and hammer to seat the race. Place a short piece of tubing on top of the race and using welding gloves, turn the hub over and rest it on the tubing. This will keep the first race seated while the second is installed.

1.4.2 **Method II** -- An arbor press can be used for installation.

1.4.3 **Method III** -- If heat or a press is not available, a punch and hammer can be used exclusively.

**1.5 Bearing
Installation:**

1.5.1 Pack bearings with grease. (We use Pennzoil 705.) This can be done by hand or by using a bearing packer.

1.5.2 Install the bearing with the narrow side of the taper to the inside.

1.5.3 Inspect the grease seal. If the seal is torn or bent, replace it with a new seal.

1.5.4 Install the grease seal with the flat surface out and the inner lip of the seal pointing towards the bearing. Place a flat plate over the top of the seal and then hammer straight down on the center of the plate until the top of the seal is flush with the top surface of the hub.

1.5.5 Install the high speed spacer through the opening of the the grease seal. (*Note: Because of a change in spindle design, newer Karts no longer need this spacer on the inside of the front hub. The new-style spindle will not accommodate both spacers.*)

**1.6 Hub & Wheel
Installation:**

- 1.6.1 Slide the hub over the axle shaft. Start the axle locknut and tighten until it is snug against the spacer. Make sure that the locknut has considerable resistance. If not, replace with a new one. (They are only good for a limited number of installations.)
- 1.6.2 Install the wheel; tighten lugnuts. The recommended torque for the 3/8" lugnuts is 32 ft.-lb. Do not attempt to achieve this with a 1/2" drive impact wrench. If you have experience using impact wrenches, a 3/8" drive impact wrench on a low setting can be used for lugnuts.
- 1.6.3 To adjust the hub, back off the locknut about 1/4 turn. While rotating the wheel, watch the spacer. Gradually tighten the locknut until the spacer stops turning; then tighten about 1/16 additional turn. You should not feel any slop once adjusted.

FRONT SPINDLES

**2.1 Spindle
Removal:**

- 2.1.1 Raise the Kart by placing on a block or stand and remove the wheel and hub. (The wheel does not have to be removed from the hub for spindle removal.)
- 2.1.2 Remove the tie rod from the steering arm.
- 2.1.3 Remove the upper and lower retaining clips from the spindle yoke. Position a punch on top of the upper bearing cap. (We use a 6" piece of 1" OD round tubing.) Hammer straight down until both the upper and lower bearing caps are free of the yoke.
- 2.1.4 Remove bearing caps; rotate the spindle out of the yoke.

**2.2 Spindle
Installation:**

- 2.2.1 Install the lower retaining clip into the yoke. Be sure it is properly seated into the groove.
- 2.2.2 Hold the spindle so that the axle shaft portion of the spindle is pointed out away from the Kart and the steering arm is pointed toward the front of the Kart.

Install the lower bearing cap onto the lower trunion, making sure that all the needles are correctly positioned.

- 2.2.3 Insert the upper portion of the trunion into the opening at the top of the spindle yoke. Rotate the spindle positioning the lower bearing cap over the opening in the bottom of the yoke.
- 2.2.4 Raise the spindle vertically and install the upper bearing cap onto the trunion.
- 2.2.5 Hammer down on the upper bearing cap until it is flush with the top of the yoke while holding upward pressure on the spindle.
- 2.2.6 Position a 1" OD punch on top of the upper bearing cap and hammer down until there is enough clearance to install the retaining clip into the groove. Install the upper retaining clip.
- 2.2.7 Place the 1" OD (.120" wall) tubing over the front axle (for protection) and hammer upward until the spindle moves freely.
- 2.2.8 Install the tie rod and tighten, making sure there are flat washers on both sides of the rod end.
- 2.2.9 Install the grease fitting (grease zerk) and grease.
- 2.2.10 Install the hub and wheel and adjust as previously described in Section 1.6.

REAR AXLE

3.1 Axle Removal:

(Note: In order to remove the axle, it will be necessary to loosen both bumper halves.)

- 3.1.1 Raise the rear of the Kart by placing on a block or stand.
- 3.1.2 Remove the outermost screws from both the front and rear of the bumper halves.

3.1.3 Loosen the remaining screws on both the front and rear. This will allow the sides of each bumper half to drop down.

3.1.4 Remove both rear wheels and hubs. (*Note: It is not necessary to disassemble the wheel from the hub. Simply remove the axle locknut and take off the whole assembly.*)

3.1.5 Using a small 5/32" diameter pin punch, drive the roll pin out from the center of the axle housing.

3.1.6 Remove the axle from the housing. Hammer in on one side until flush with housing. Then, using a 24" X 1/2" steel round bar, continue to drive the axle through the housing until it is removed. For stubborn axles, a 1" OD X .120" wall tubing 4 3/8" long can be placed over the axle. Start a 3/4" nut and tighten until the axle moves. The axle can be inched out by installing additional spacers.

**3.2 Axle
Installation:**

3.2.1 Apply a small amount of anti-seize to the end of the new axle and to the inside of the housing.

3.2.2 Insert the axle into the housing. To help protect the threads from being damaged, position a small block of wood over the end of the axle and hammer it in until it is centered in the housing.

3.2.3 Using a pair of channel lock pliers, rotate the axle until the holes in the center of the housing and the axle are aligned. If holes appear to be misaligned, try rotating the axle 180 degrees. Insert the roll pin and hammer it in until it is flush with the housing. (If alignment doesn't improve, then it might be necessary to re-drill the hole using a 3/16" drill bit.)

3.2.4 Wipe off any excess anti-seize. Install the hub and wheel assemblies and adjust as previously described in Section 1.6.

3.2.5 Install bumper screws and tighten.

STEERING SHAFT

4.1 Steering Shaft Removal:

(Note: We use #271 Red Loctite on the steering wheel hub. You will need a two or three arm puller and a propane or acetylene torch for this procedure.)

- 4.1.1 Remove the steering wheel pad and the center locknut from the steering shaft.
- 4.1.2 Disassemble the steering wheel from the hub.
- 4.1.3 Center punch the end of the steering shaft. Position the puller on to the steering hub and apply a moderate amount of force to the center of the steering shaft by turning in on the puller screw.
- 4.1.4 Using a propane or acetylene torch, apply heat to the steering hub.
- 4.1.5 Continue turning in on the puller screw and applying heat until the steering hub is removed from the shaft. A sharp blow from a hammer on the end of the puller might help to break the hub loose.
- 4.1.6 Disconnect the tie rods from the steering shaft.
- 4.1.7 Raise the front of the Kart approximately 24" and remove the steering shaft from the housing.

(Note: If you are replacing the steering bushing at this time, continue reading Sections 4.2 and 4.3. Otherwise, skip down to Section 4.4 Steering Shaft Installation.)

4.2 Bushing Removal:

- 4.2.1 To Remove the bushings from the housing. We would suggest inserting a 24" X 1/2" steel round bar into the housing and hammer on the inside edge of the bushing until it is removed.

4.3 Bushing Installation:

- 4.3.1 Using a bushing driver, hammer the new bushing into the housing. The flange of the bushing should be seated against the edge of the housing.

4.3.2 The new bushings will need to be reamed. We suggest using a .629" reamer which will give slightly more clearance than a standard 5/8" reamer. An adjustable hand reamer can be used.

4.4 Steering Shaft Installation:

4.4.1 Raise the Kart approximately 24" and insert the steering shaft into the housing. Make sure that the shaft is free. If not, ream the bushing out some more.

4.4.2 Assemble the tie rods to the steering shaft pitman arm and tighten.

4.4.3 Assemble steering hub to steering wheel. **DO NOT TIGHTEN YET!!**

4.4.4 Apply a small amount of #271 Red Loctite to the inside of the steering hub.

4.4.5 Install the steering wheel hub; be sure the front wheels are pointed straight ahead and the steering wheel is level.

4.4.6 Install the center locknut and tighten.

4.4.7 Tighten the remaining nuts and bolts on the steering wheel.

4.4.8 Inspect the condition of the steering wheel pad before installing. Be sure it fastens securely to the steering wheel and it is not torn or ripped; if so, replace it.

BRAKES

5.1 Brake Replacement:

5.1.1 Raise the rear of the Kart by placing on a block or stand.

5.1.2 Remove the wheels and hubs as previously described in Section 3.1.4.

5.1.3 Disconnect the brake return springs from the bias bar.

5.1.4 Disconnect the long brake rod from the bellcrank.

5.1.5 Remove the two long springs from the brake shoes.

5.1.6 Using a pair of needle nose pliers, disconnect the short spring from the brake shoe; remove and install the new shoe. Reconnect the short spring. Do the same with the other shoe.

5.1.7 Reinstall the long brake springs and repeat this procedure with the other brake assembly.

5.1.8 Install the wheel and hub assemblies. Adjust the hubs as described in Section 1.6.

5.1.9 Reconnect the brake return springs to the bias bar and the long brake rod to the bellcrank. It may be necessary to adjust the brake rod length. To do this, loosen the clevis on either end of the rod and turn.

5.1.10 Adjust the brakes. (See Section 5.2.3 and 5.2.4)

5.2 Brake Adjustment:

5.2.1 Disconnect the long brake rod at either end.

5.2.2 Loosen the jam nut and turn the clevis in clockwise to shorten.

5.2.3 Reattach the rod temporarily; check the free travel play in the pedal. (No more than 3/4" is recommended.)

5.2.4 Once the desired length has been achieved, reattach the brake rod and tighten the jam nut.

6.1 THROTTLE ADJUSTMENT

6.1.1 The speed of the Kart should be set using the throttle stop located under the gas pedal. Screw the stop bolt in to increase or out to decrease the speed of the Kart. (See Setup sheet for methods and formulas.)

6.1.2 On the non-bodied GoKarts, the rear throttle stop must be set by depressing the gas pedal fully (not while it's running) and screwing out the rear stop bolt until it almost touches the linkage.

BELT TENSION & REPLACEMENT

- 7.1 Belt Tension:**
- 7.1.1 Loosen the four engine mounting bolts.
 - 7.1.2 Get someone to hold back on the engine while retightening the mounting bolts. It is recommended that the belt be tight. If you cannot tighten the belt using the above procedure, place four 5/16" fender washers under the engine to shim it up.

- 7.2 Belt Replacement:**
- 7.2.1 Raise the rear of the Kart by placing on a block or stand.
 - 7.2.2 Remove the drive wheel. (Remove belt guard on non-bodied GoKarts.)
 - 7.2.3 Remove the axle nut.
 - 7.2.4 Remove the belt from the lower sprocket first. To do this, rotate the sprocket while pushing on the belt and pulling out on the hub. Once the belt is free, remove it from the upper sprocket.
 - 7.2.5 If the new belt will not start on the sprocket, loosen the four engine mounting bolts. Reverse the process to install the new belt.
 - 7.2.6 Adjust the belt, if necessary. (see Section 7.1).
 - 7.2.7 Install the drive wheel and tighten lugnuts.
 - 7.2.8 Install the belt guard (on non-bodied Karts).

- 8.1 TIRE ALIGNMENT PROCEDURE:**
- 8.1.1 Remove body. (if applicable)
 - 8.1.2 Point wheels straight ahead with the steering wheel.
 - 8.1.2 "Hang" a steel tape measure on the outside corner of a front tire and measure the distance to the outside corner of the other tire. Do this at a position on the front of the tires at a level of the front axle (about 6" from the ground). Move the tape to the rear

of the tires and measure this distance (at the same level for bodied Karts; below the frame rails for non-bodied Karts). This distance should be the same within 1/8". If not, proceed to the next step.

8.1.4 Level the steering wheel and pick the tire that is most out of alignment. Loosen the jam nuts on the tie rod associated with that tire. Remove the bolt that holds the rod end on the steering arm at that tire. Lengthen or shorten the tie rod as required. Reinstall the tie rod (a standard nut that is snugged will work fine at this point). Repeat step 8.1.3. Continue this process until you are within 1/8" tolerance.

8.1.5 Reinstall the locknut and tighten, making sure that both flat washers are installed on either side of the rod end.

8.1.6 Reinstall the body, if applicable.

ALUMINUM SIDE PANELS

9.1 Side Panel Removal:

9.1.1 Insert a 1/16" pin punch into the rivet body and drive out the mandrel.

9.1.2 Hold the back of the rivet body with a long pair of needle nose pliers. (This will keep it from spinning when drilled.)

9.1.3 Drill through the rivet body using a 3/16" drill bit.

9.1.4 Remove the bolt from the front of the side panel. Remove the panel.

9.2 Side Panel Installation:

9.2.1 **New Side Panels** -- Position new panel in place and insert rivets (use only all-steel rivets; 3/16" large flange, shortest grip) into position temporarily; **don't pop yet!**

9.2.2 While holding the new side panel in position, mark the panel for the front hole location.

9.2.3 Drill or punch to 1/4".

9.2.4 Reposition with all rivets and bolt into place.

9.2.5 Pop the rivets and tighten bolt.

10.1 UPHOLSTERY

(Note: Most of the upholstery is bolted in with 1/4" bolts. Blue Loctite #242 is used on all bolts when installing upholstery.)

10.1.1 The aluminum side panels must be removed (see Section 9.1) before removing the upholstered side panels on the single-seater non-bodied GoKarts. It is necessary to remove only one upholstered side panel to remove the upholstered bottom on this style of GoKart.

WHEEL STUDS

(Note: #271 Red Loctite is used on wheel studs. You will need an acetylene torch for this procedure.)

11.1 Stud Removal: 11.1.1 Raise the Kart using a block or stand.

11.1.2 Remove the wheel, hub, bearings, and seals as described in Section 1.1 and 1.2.

11.1.3 Using a die grinder with a 2" cutoff wheel *(Note: If this tool is not available, a hacksaw can be used.)*, Cut off all damaged studs as close to the face of the hub as possible, being careful not to cut into the hub itself.

11.1.4 Using a file, deburr the cut edges of the stud.

11.1.5 Using an acetylene torch with a rosebud tip, heat up the area around the stud. This will release the Loctite.

11.1.6 Using a 5/16 hex key wrench (allen wrench), remove the wheel stud. *(You may want to clean out the hole with a 3/8-24 tap before installing the new stud.)*

11.2 Stud Installation: 11.2.1 Apply a small amount of #271 Red Loctite to the new wheel stud before installing.

11.2.2 Install the new stud into the hub and tighten. Wipe off excess Loctite.

11.2.3 Reinstall the bearings and seals as described in Section 1.5. *(Note: The heat from the previous procedure may have allowed the race to move. Be sure it is properly seated.)*

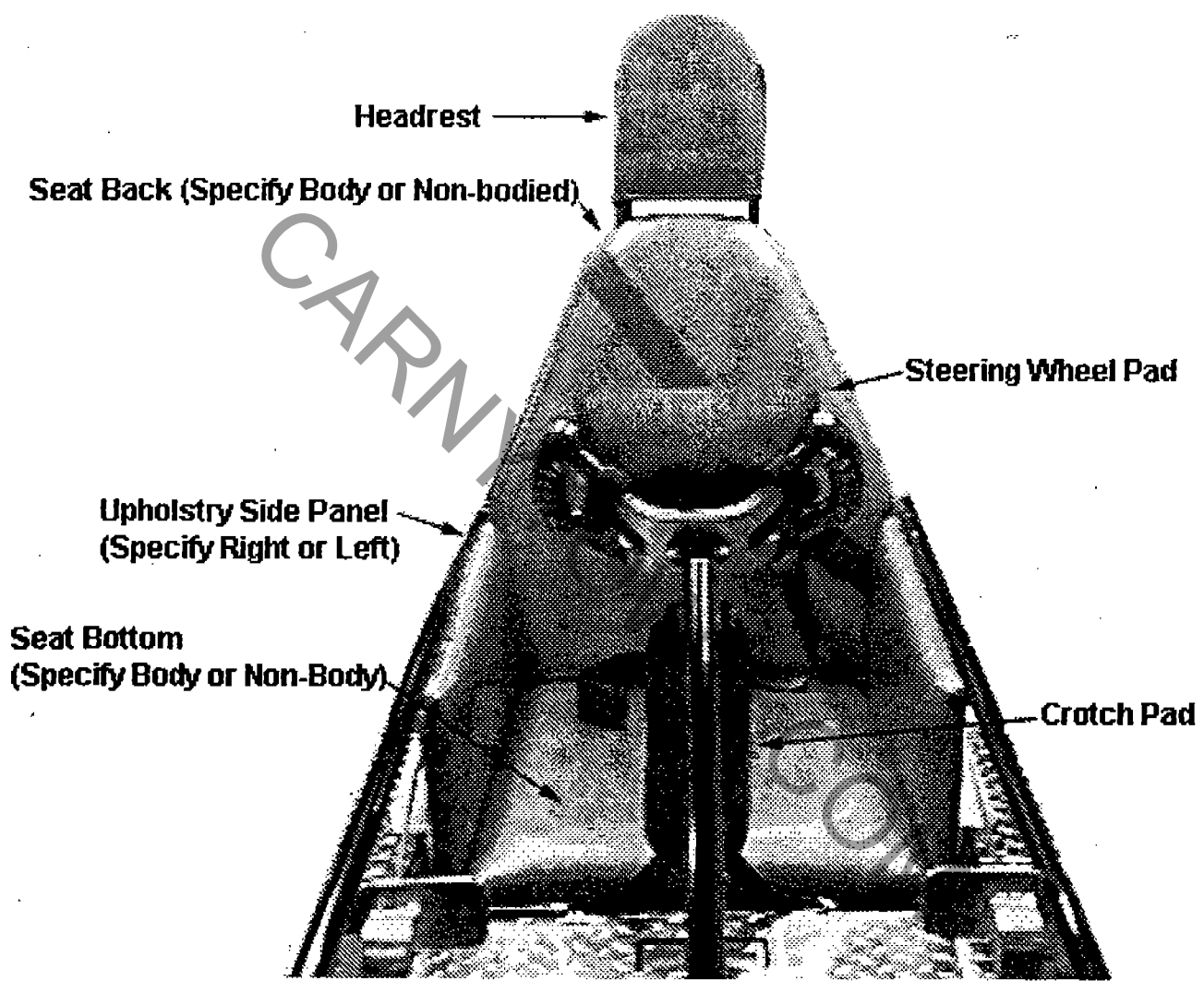
11.2.4 Reassemble the hub and wheel as described in Section 1.6

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SPECIAL GEARBOX INSTRUCTIONS
FOR
SHALLER KIDDIE KARTS

In order to keep from using a jackshaft arrangement, we have installed our own "guts" into the inside of the existing Honda gearbox. By doing this, we have changed the ratio from the stock 2:1 ratio to 3.64:1. We recommend using Automatic Transmission Fluid (ATF) in the Kiddie Kart gearbox. You will have to experiment somewhat with the fluid level, however. This clutch will tend to slip excessively when the level is too high. Start off with the fluid level at the standard mark. Keep letting a little of the fluid out until the GoKart will take off on its own without a push. The advantage of a "slippy clutch" is that when your young patron runs head on into the wall and doesn't take his foot off the gas, the GoKart will not climb the wall. Also, your pit attendant can keep a Kiddie Kart from moving by simply placing his foot on the Kart (you would not be able to do this if the clutch did not slip with this low gear ratio).

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Headrest

Seat Back (Specify Body or Non-bodied)

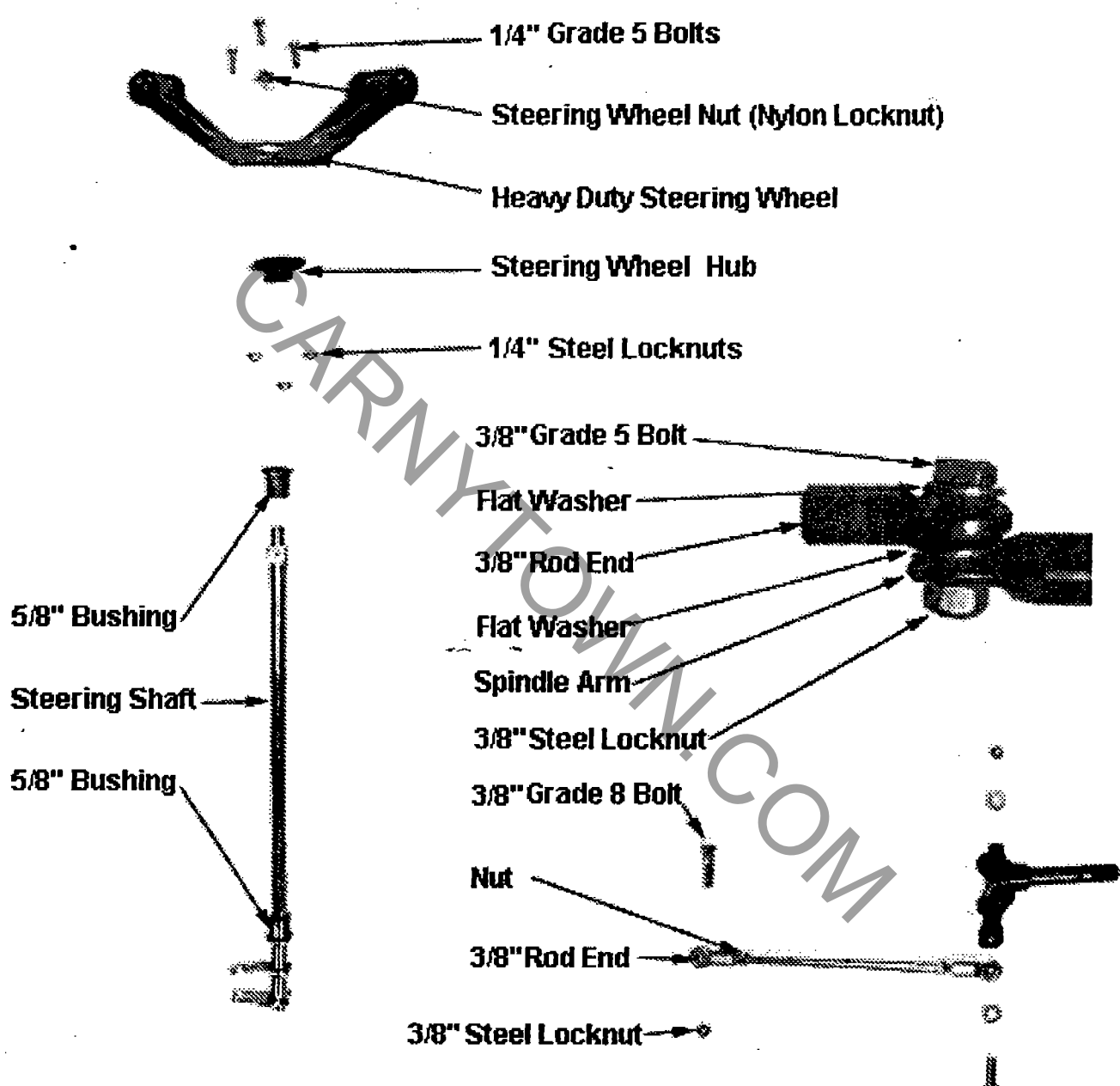
CARNIVAL

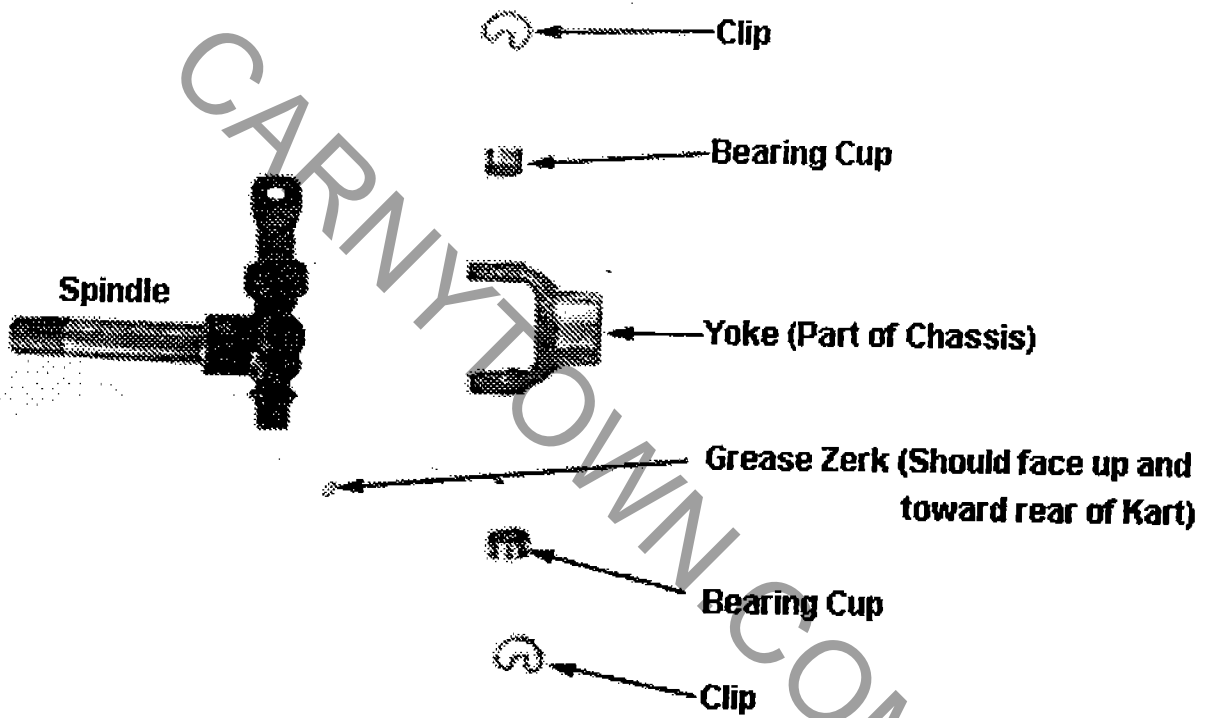
Steering Wheel Pad

Upholstry Side Panel
(Specify Right or Left)

Seat Bottom
(Specify Body or Non-Body)

Crotch Pad







Brake Drum



Lower Sprocket
(70 Tooth standard)



1" High Speed Spacer*



1" Grease Seal*



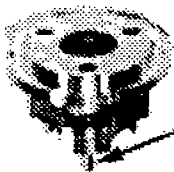
1" Bearing Cone*



1" Race Cup*



1" Rear Hub*



Wheel Stud



1" Race Cup*



1" Bearing Cone*



1" Grease Seal*

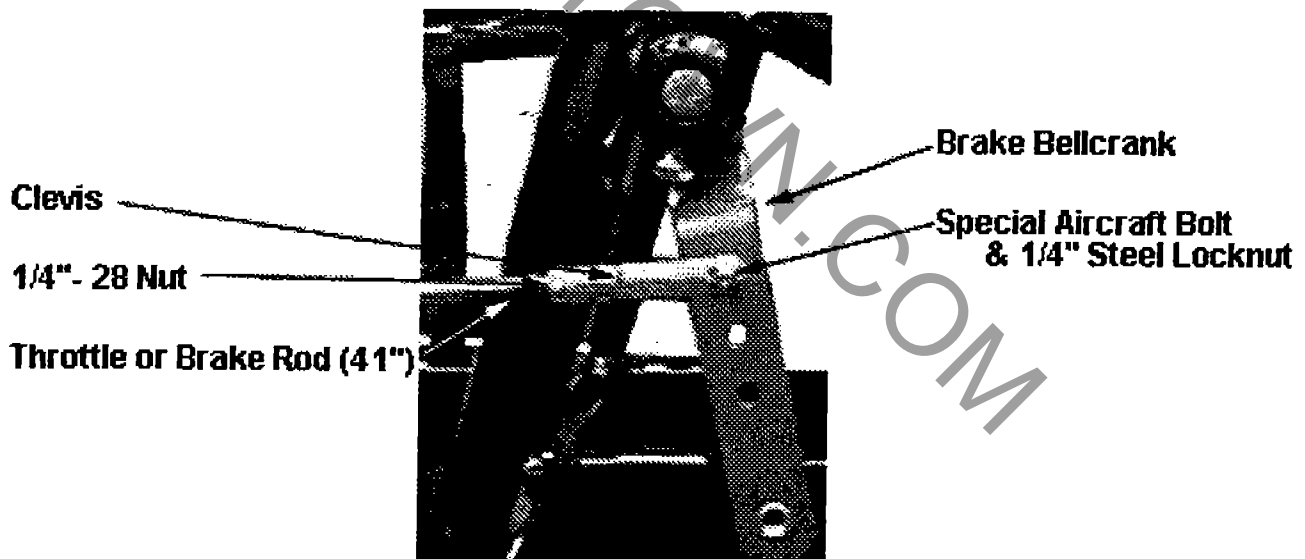
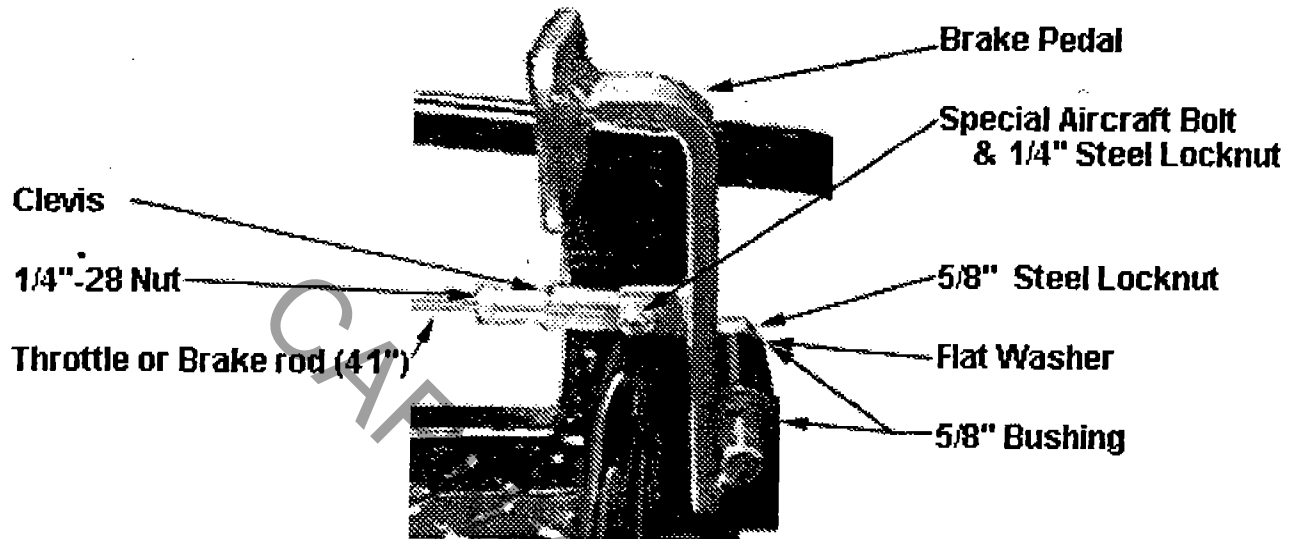


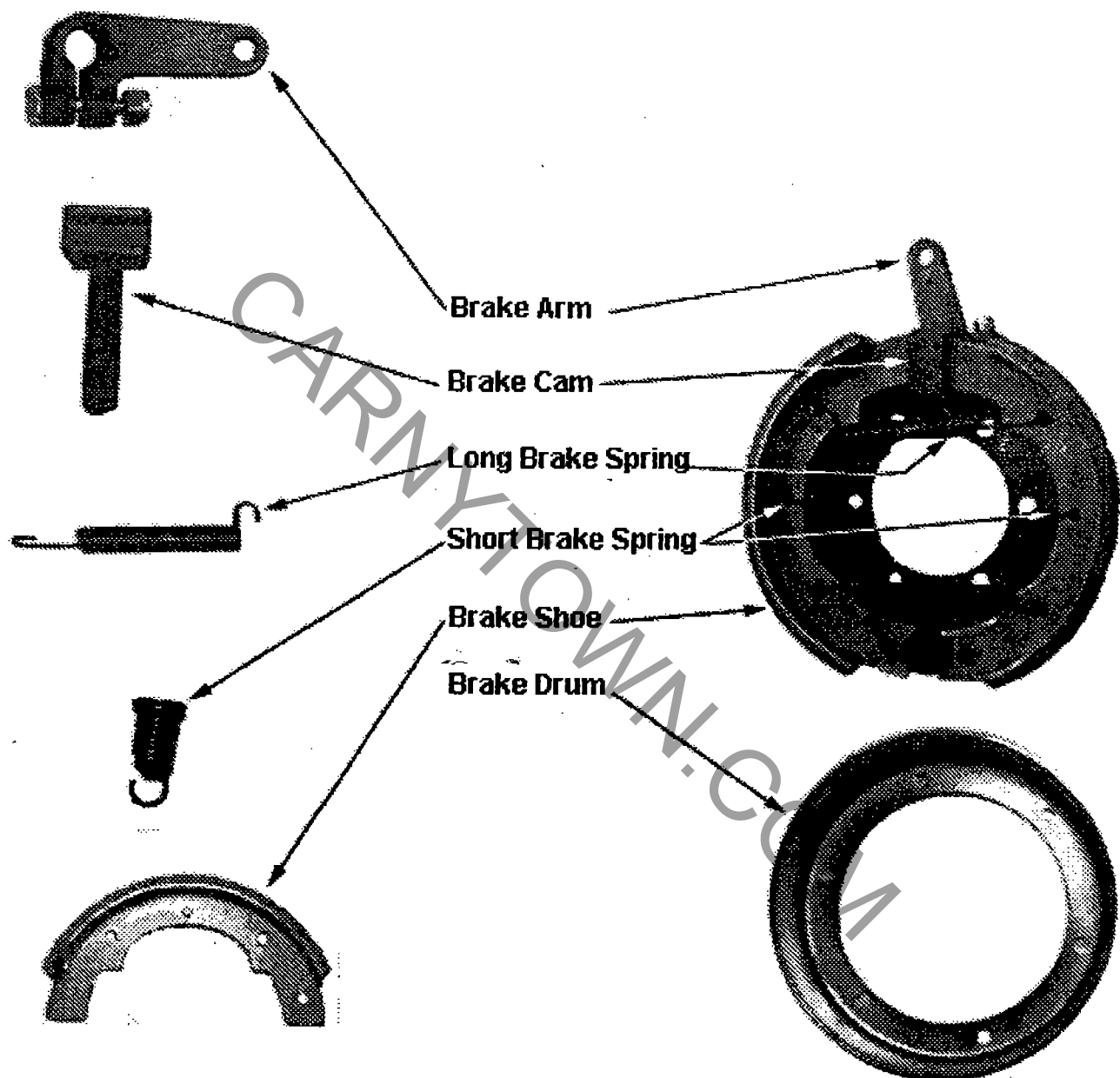
1" High Speed Spacer*

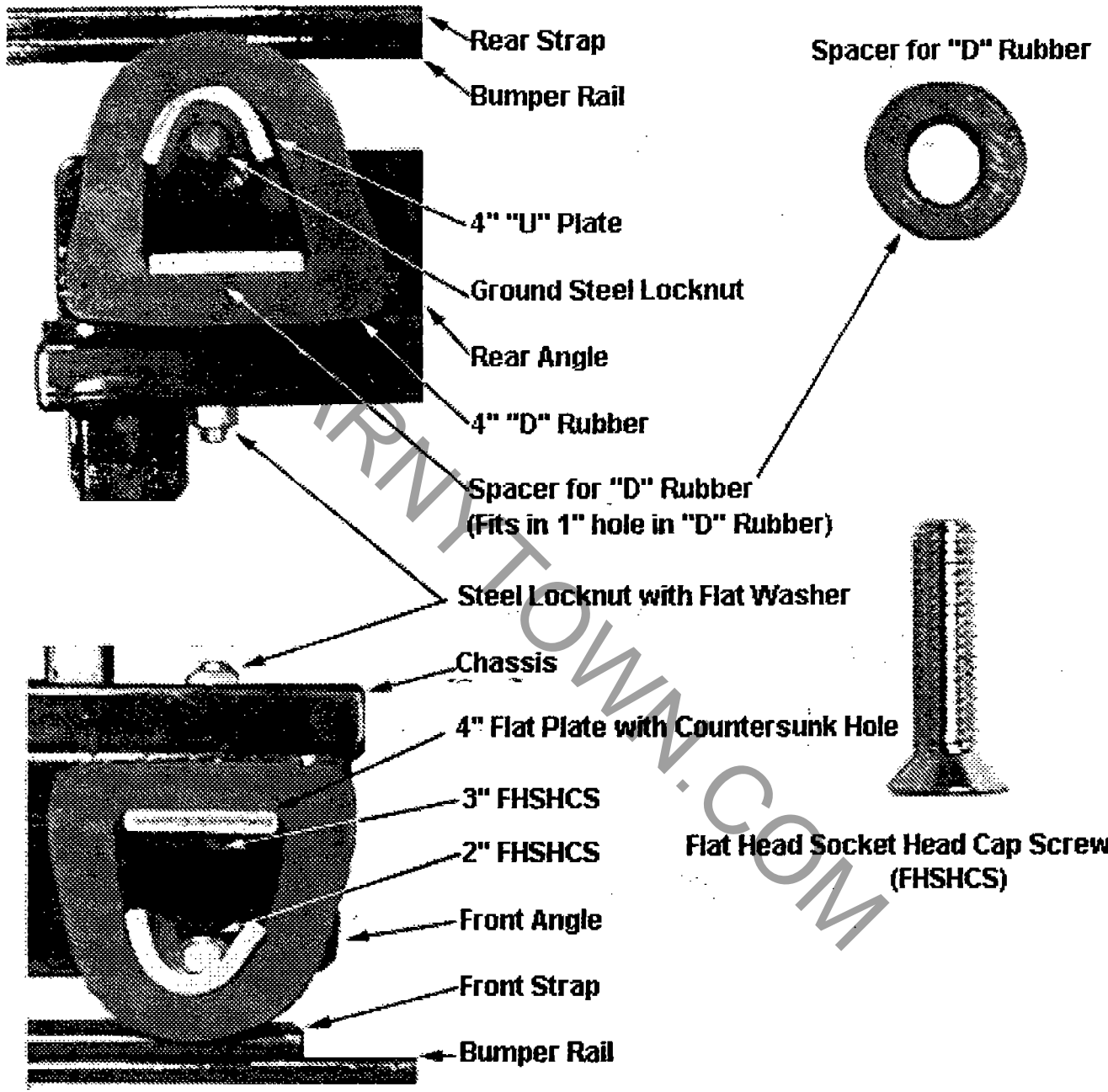


1" Axle Nut (Nylon Locknut)*

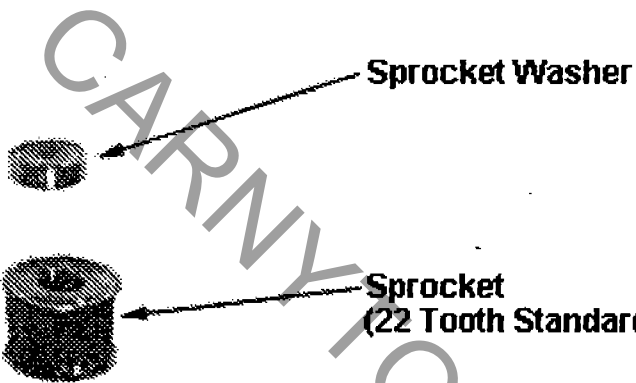
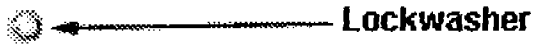
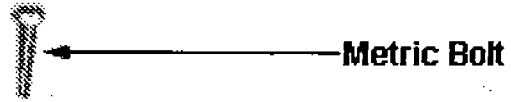
* 3/4" used on early models.



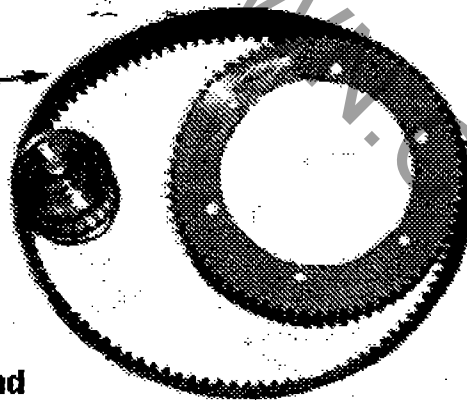




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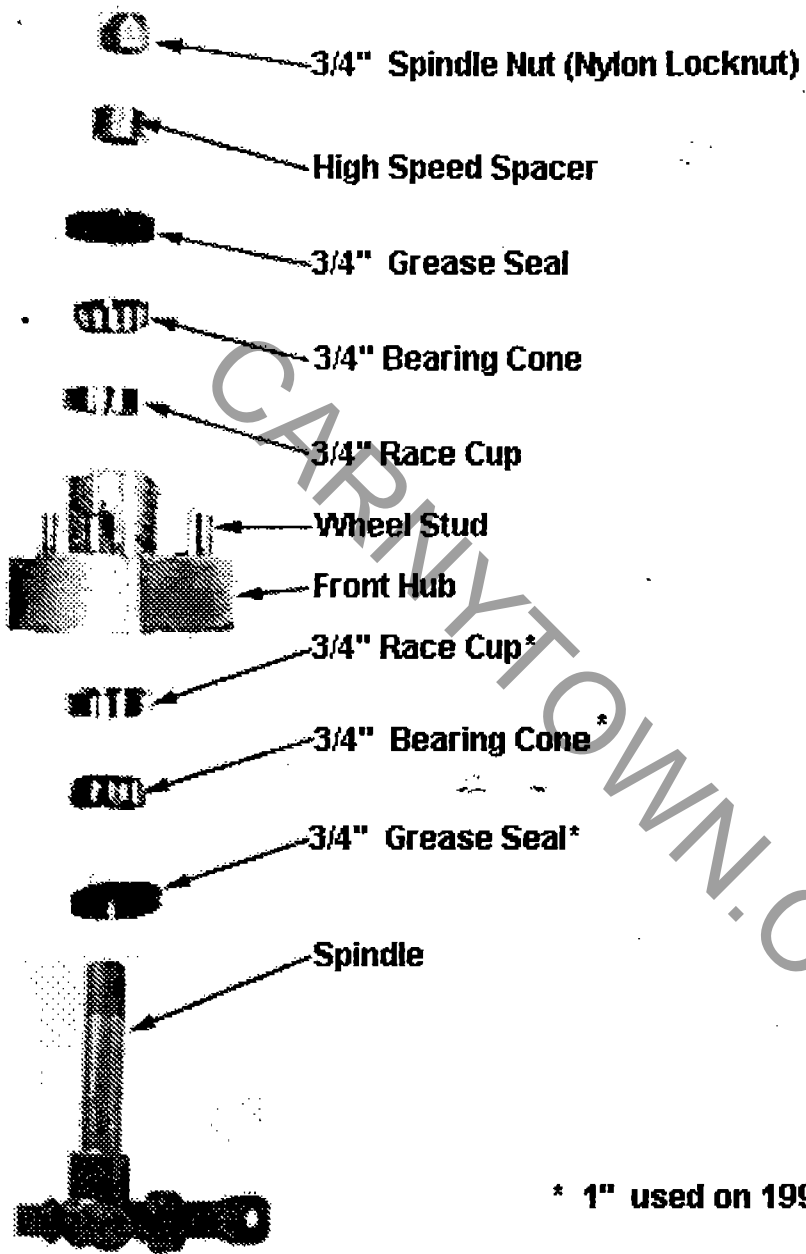


Drive Belt
896 Polychain GT*



Lower Sprocket
(70 Tooth Standard)

* Earlier models have used
an 800 Polychain GT belt and
an 800 High Torque Drive (HTD) belt.
Kiddie Karts use an 840 HTD.



* 1" used on 1997 or later models.

