

**KART KIT**  
Assembly Guidelines

## **WELCOME TO THE EXCITING WORLD OF KARTING . . .**

Since its humble beginnings in the late 1950's as a recreational past-time, Karting has evolved into a highly competitive racing sport taken very seriously by its enthusiasts.

It all began, however, with the "fun" or "yard" kart, which today remains the single most common starting point, not only for kart racers, but many world-famous racing car champions.

If you were looking to buy a competitively-priced fun kart that is nevertheless "a cut above" in quality, your decision to purchase this kit was a wise one.

You have purchased a set of high-quality components, carefully selected and built to last. Many components are standard equipment on top-of-the-line racing karts. We are confident that you will not find a better kit anywhere for the price.

Whether you intend to enjoy driving this vehicle around a track or ultimately plan to race, this kit is an excellent place to start. Treat your assembly and driving with respect and remain focused on safety and you may have many hours of fun and excitement.

## KART ASSEMBLY GUIDELINES

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**Limited Warranty On Seller's Goods:** Seller warrants to the original purchaser only, that goods it manufactures will be of the kind and quality described and will be free of defects in material or workmanship for of 6 months from the original date of the original buyer's purchase.

After proper notification by the original purchaser as described below, and upon Seller's satisfaction that the goods have been stored, transported, installed, maintained and operated as required by Seller and in accordance with standard industry practice, Seller will, at its option, repair or replace goods that are found to Seller's satisfaction, to be non-conforming or defective in material or workmanship. Seller may refund the purchase price to the original purchaser if Seller is unable by repair or replacement to make the goods perform the function for which they, according to Seller, were designed. This warranty does not obligate Seller to bear any transportation, shipping, removal or installation charges.

This warranty does not cover defects or costs caused by: 1) modification, alteration, repair or service of the goods other than by Seller; 2) physical abuse to or misuse of the goods; or, 3) use of the goods other than that for which they were intended as designated by Seller.

To obtain warranty benefits the original purchaser must, within the warranty period: 1) notify Seller in writing of the particulars of the defect or failure of the goods to conform; and, 2) deliver the goods to Seller with shipping costs to be born by purchaser.

**Limited Warranty on Goods Manufactured by Others:** Seller warrants that the goods manufactured by others will conform to the description herein stated. Any warranty of the original manufacturer is hereby assigned and transferred to the purchaser and except for the original manufacturer's warranty, if any, the goods sold hereunder are sold "AS IS."

**THE ABOVE WARRANTIES ARE EXCLUSIVE, THE ONLY WARRANTIES ON ANY GOODS WHETHER MANUFACTURED BY SELLER OR OTHERS, AND ARE IN LIEU OF ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. ALL WARRANTIES WHETHER EXPRESS OR IMPLIED, OTHER THAN AS STATED ABOVE ARE SPECIFICALLY EXCLUDED AND DISCLAIMED. ANY DESCRIPTION OF THE GOODS, AFFIRMATION OF FACT OR PROMISE, SAMPLE, MODEL, PHOTOGRAPH, ILLUSTRATION OR MODEL IS NOT A PART OF THE BASIS OF THE BARGAIN AND DOES NOT CONSTITUTE A WARRANTY THAT THE GOODS WILL CONFORM THERETO.**

**Limitation of Liability:** Correction of defects and/or non-conformities, as and for the time period prescribed, shall constitute fulfillment of all liabilities of Seller to any purchaser whether based on contract, negligence, strict tort or otherwise. Seller shall under no circumstances be liable for any damages whatsoever, whether direct, special, incidental or consequential. The remedies set forth herein are exclusive, and the liability of Seller with respect to any contract, or anything in connection therewith including but not limited to the performance or breach thereof, or from the manufacture, sale, delivery, resale, installation or use of any goods covered by or furnished under this contract whether arising out of contract, negligence, strict tort, or under any warranty, or otherwise, shall not, except as expressly provided herein, exceed the price of the goods upon which such liability is based.

**IMPORTANT WARNINGS!**  
**READ BEFORE ANY ASSEMBLY OR OPERATION**

**LIVE AXLE WARNINGS:**

THIS KART IS PROPELLED BY A REAR, SO-CALLED "LIVE AXLE" WHICH SPINS AT A RAPID RATE OF SPEED DURING OPERATION. EVEN IF THE KART IS MERELY BEING PUSHED WITH THE ENGINE OFF, THE AXLE CAN AND WILL "GRAB" AND ENTANGLE ANY ITEMS DANGLING NEAR IT, OR CARRIED, WORN OR ATTACHED TO THE RIDER OR BYSTANDERS, SUCH AS LONG HAIR AND/OR LOOSE CLOTHING WHICH COULD CAUSE SERIOUS INJURY OR WORSE. DO NOT AT ANY TIME OPERATE OR APPROACH THE KART WITH ANY SUCH ITEMS. RIDERS MUST FULLY ENCLOSE ALL HEAD HAIR WITH AN APPROPRIATE HELMET AND REFRAIN FROM OPERATION WHILE IN POSSESSION OF ANY ITEMS WHICH COULD COME INTO CONTACT WITH THE REAR AXLE OR OTHER MOVING PARTS.

**CHAIN DEFLECTOR WARNINGS:**

IT IS UNSAFE TO OPERATE A KART WITHOUT A CHAIN DEFLECTOR. DO NOT OPERATE PRIOR TO INSTALLING THE CHAIN DEFLECTOR SUPPLIED WITH THIS KIT OR OTHER APPROPRIATE DEFLECTOR.

**TIRE ASSEMBLY & INFLATION WARNINGS:**

**COMPRESSED AIR CAN BE DANGEROUS.** Containment guards and eye protection should be used when inflating tires. Assemble tires and wheels with care. Never force a tire onto a wheel by prying against the wheel rim. A properly assembled tire will seat itself onto the wheel rim with less than 15 lbs. psi of air pressure.

**ASSEMBLY SAFETY WARNINGS:**

Review with these assembly guidelines in their entirety. Review and comply with all warnings, cautions and notes and all items in Step 27 "Safe Assembly & Operations Review" before any operation. Assembly should be performed by knowledgeable individuals using appropriate tools. If you experience problems with, or have any questions whatsoever about any portion of the assembly process or individual or overall function or kart operation, ask your Dealer or other knowledgeable mechanic or expert.

**KART OPERATION & SAFETY WARNING:**

Karts must be assembled and operated in accordance with all government regulations. All riders must comply with these and other requirements regarding head, eye and body protection. Check with appropriate government agencies before any operation. All riders must be properly trained in, and fully knowledgeable of all kart functions and safe operation and procedure. Further, all kart components and functions must be fully operational and safe before operation. **FAILURE TO COMPLY COULD POSSIBLY RESULT IN SERIOUS INJURY OR DEATH.**

# ASSEMBLY GUIDELINES

## 👉 ABOUT THE CONTENTS

- **CAUTIONARY NOTE:** These guidelines assume familiarity with tools and above average mechanical aptitude. They are suggestions only; your assembly experience may vary. If uncertain as to how to proceed, seek the help of an experienced professional.
- Your kart kit's Components are packaged in three (3) cartons. *Engine and clutch are not included.*
- Folded into this booklet is a two-sided "Kart Components Checklist" which looks like this:

Item	Mfgr. No.	Part No.	Description	Quantity
1			Front Wheel	1
2			Rear Wheel	1
3			Engine	1
4			Clutch	1
5			Transmission	1
6			Drive Shaft	1
7			Axle	1
8			Frame	1
9			Seat	1
10			Steering Column	1
11			Handlebars	1
12			Pedals	1
13			Brake	1
14			Chain	1
15			Sprocket	1
16			Cable	1
17			Cable Housing	1
18			Cable End Fittings	1
19			Cable Adjuster	1
20			Cable Guide	1
21			Cable Anchor	1
22			Cable Tensioner	1
23			Cable Lubricant	1
24			Cable Sealant	1
25			Cable Protector	1
26			Cable Cutter	1
27			Cable Striper	1
28			Cable Tester	1
29			Cable Repair Kit	1
30			Cable Replacement Kit	1
31			Cable Installation Kit	1
32			Cable Maintenance Kit	1
33			Cable Inspection Kit	1
34			Cable Cleaning Kit	1
35			Cable Polishing Kit	1
36			Cable Lubrication Kit	1
37			Cable Sealing Kit	1
38			Cable Protection Kit	1
39			Cable Replacement Kit	1
40			Cable Installation Kit	1
41			Cable Maintenance Kit	1
42			Cable Inspection Kit	1
43			Cable Cleaning Kit	1
44			Cable Polishing Kit	1
45			Cable Lubrication Kit	1
46			Cable Sealing Kit	1
47			Cable Protection Kit	1

- Use the Checklist to organize as you unpack and assemble your Kart. The numbers in the "Item" column refer to individual components in this booklet. The "Mfgr. No." is listed to aid your retail merchant should you have questions or require replacement parts. The illustration on the last page of this booklet should also aid in locating parts and the general manner in which they are assembled.

Before you start putting things together:

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## KART ASSEMBLY GUIDELINES

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### ☛ UNPACK & ORGANIZE

- Read this entire Assembly Guideline booklet before beginning assembly.
- As you unpack, identify, inventory and group the kit's components according to their function and assembly step.
- Now, on to the fun stuff ...

### 1. PAINT THE FRAME

- Thoroughly clean all items you intend to paint. Use an appropriate solvent to remove rust-proofing oil from the Go-Kart Frame (Item 1) and Steering Hoop (Item 1a).
- When items are free of rust, clean and dry, prime and then paint the Frame, Steering Hoop and/or other items, if desired.
- Allow the paint to dry thoroughly before further assembly.

**NOTE:** For ease of assembly, take care when painting areas such as the Steering Hoop prongs, the inside of any bushings, slots, bolt holes, etc.

### 2. INSTALL THE SPINDLES

- Locate the side 1 and side 2 front wheel Spindles (Items 4 & 5). When properly installed, the Spindle arms will point up and to the rear of the Kart Frame as shown in the illustration on the last page. This will help you to determine proper positioning of "left" and "right" Spindles.
- Retrieve two Split Nyliner Bushings (Items 4 & 5, Bag 4). Insert one Bushing into the top and another into the bottom of each Spindle.
- Using the two 5/8-18 x 3-3/4" Kingpin Bolts (Item 16), bolt the Spindles into the "C" shaped Spindle brackets welded to each end of the front horizontal Frame member.

**NOTE:** Make sure to insert the Bolts from the top of the Spindle brackets, through the Spindle bushings.

- Secure each Kingpin Bolt with a 5/8-18 Locknut (Item 17).

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## KART ASSEMBLY GUIDELINES

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### 3. ASSEMBLE FRONT WHEELS

- **NOTE:** The following guidelines are applicable to assembly of both Front Wheels. ***If your kit came equipped with aluminum wheels, your components and assembly will vary slightly. Please see the last NOTE in this step, below.***
- Insert an Innertube (Item 8) into a front 5" Sawtooth Tire (Item 6) so that it is snug and resting completely within the Tire. Inflate the Innertube with just enough air to remove the folds in the tube (approximately 1 or 2 psi).
- Mount the front 5" ball bearing Wheel sets (Item 2) onto the front Tires/Innertubes as follows:
  - Place the Tire/Innertube combination on a flat surface with the valve stem pointing up.
  - Place the Wheel half with the stem hole into the Tire with the hole down over the valve stem.
  - Turn this assembly upside down. Insert the second Wheel half into the Tire, aligning its bolts holes with those in the first half. The locknuts will go into the hex recesses in this wheel half.

**NOTE:** Do not pinch the Innertube between the Wheel halves.

- Rest the tire assembly on edge and place the 5/16-18 Locknuts (Item 2) into the hex recesses. Fasten with the slotted 5/16-18 x 1-1/2" Fillister Head Screws (Item 2).

**NOTE:** If your kit has Aluminum Wheels, there are no hex recesses and you will use 5/16-18 x 3" Bolts instead of Fillister Head Screws. Also, each Aluminum Wheel half has a valve stem notch which when fitted together form the valve stem hole.

- Carefully hand-tighten each nut in sequence. Do not over-torque.

**CAUTION:** If you use a source of compressed air, use **eye protection** and a **tire cage** during inflation. A simple bicycle tire hand-pump is sufficient to provide adequate inflation.

- Inflate the tire to 15 psi. At this point it should be seated properly (tire bead flush with wheel rim and the wheel halves showing no gap at the center line). If there is a gap, deflate the tire, re-torque the wheel bolts and inflate again.

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## KART ASSEMBLY GUIDELINES

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**CAUTION: 15 PSI IS APPROACHING THE MAXIMUM FOR THIS TIRE AND WHEEL COMBINATION. DO NOT INFLATE TO THE RUNNING PRESSURE STATED ON THE TIRE.**

### 4. MOUNT FRONT WHEELS

- For each Front Wheel Assembly:
  - Slide a solid nylon Spindle Spacer (Item 15) onto the Spindle.
  - Slide a Wheel assembly onto the Spindle and secure with a 5/8-18 Locknut (Item 17).
  - **NOTE:** Do not over-tighten the Locknuts; tighten until snug and then back them off approximately 1/16 of a turn.
  - **CAUTION:** Before any and each operation of your Kart, make certain that the Locknuts securing the front Wheels are secure. For additional safety, carefully drill holes in the Spindle on the outside of the Wheel Locknuts (taking care not to ruin the threads) and install cotter pins.

### 5. ASSEMBLE & INSTALL TIE RODS

- Locate the contents of the two Tie-Rod Assembly Kits (Item 18).
- On each end of each Tie Rod, install a 5/16-24 Jamnut, running it up about an inch.
- Twist a Female Rod End onto to each end of both Tie Rods and adjust so that "eye-to-eye" length is 12-3/4".
- Fasten a Tie-Rod to each Spindle arm using one 5/16-18 x 1" Bolt (Item 19) and secure with one 5/16-18 Locknut (Item 20).

### 6. INSTALL STEERING HOOP & STEERING SHAFT

- Locate the "A" shaped Steering Hoop (Item 1a) and the Steering Shaft & Hub Assembly Kit (Item 29).

**NOTE:** Completion of the following assembly steps and ultimate ease of operation may be facilitated by the use of small amounts of a graphite-based lubricant.

- Place one 5/8" Shaft Collar onto the bottom end of the Steering Shaft (the non-splined end) and slide it up until it touches the lower Pitman arm welded to the Steering Shaft. For now, tighten the set screw enough to temporarily hold the Collar in that position.



## KART ASSEMBLY GUIDELINES

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- Slide one of the two Nyliner Split Bushings (Item 30) onto the same end of the Shaft lip side first, up against the Shaft Collar.
- Slide the other 5/8" Shaft Collar down onto the Steering Shaft from its top (splined) end. For now, allow it to rest on the upper Pitman Arm.
- Insert the bottom (non-splined) end of the Steering Shaft all the way down into the steering support bushing which is welded onto the middle of the Frame's front cross member.
- Slide the Steering Hoop with prongs facing to the rear of the Kart, over the Steering Shaft's splined end and position it so that its prongs may be backed into the Steering Hoop's slot bushings (located on the upper Frame rails.)
- Push the prongs all the way back into the slot bushings until they seat, using a rubber mallet **only** to complete the job if necessary.
- Insert the other Nyliner Split Bushing (Item 30) over the top end of the Steering Shaft and down into the Steering Hoop's bushing.

**NOTE:** None of these items should be forced into place.

### 7. COMPLETE STEERING ASSEMBLY

- Re-position the Shaft Collars by sliding each as far as possible away from each other on the Shaft and then tighten the set screws.
- Overlap the loose Tie Rod Ends and center them between the Steering Shaft's two welded Pitman Arms.
- Insert the single 5/16-18 x 1-3/4" Bolt (Item 21) down through the upper Pitman arm, the holes in the Rod Ends and finally through the lower Pitman Arm. Secure the Bolt with the remaining 5/16-18 Locknut (Item 20).
- Adjust the Tie Rod Ends so that inflated tires are 1/16" closer together in the front for proper "toe-in."
- Bolt the Steering Wheel (Item 22) to the Steering Hub for 5/8" splined shaft using three 1/4-28 x 3/4" Bolts w/holes and three 1/4-28 Slotted Hex Nuts. Tighten down securely.
- Install the three 1/16 x 1/2" Cotter Pins into the Bolt holes.

## KART ASSEMBLY GUIDELINES

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- Install the 5/8" Snap Ring into the groove below the spline on the Steering Shaft.
- Slide the Steering Wheel/Hub assembly all the way down onto the Steering Shaft's splines.

**NOTE:** If necessary, readjust the upper Retaining Collar to fully expose the entire spline.

- Tap the Steering Hub gently with a rubber mallet **only** to insure seating to the full depth of the splines.
- Secure the Steering Wheel assembly with the 1/2-20 Slotted Hex Nut. Tighten the Hex Nut securely and install the 3/32 x 3/4" Cotter Pin.

### 8. ASSEMBLE AND INSTALL THE AXLE BEARINGS

- Locate the components of the Bearing Kit (Item 10). Identify the Bearing Hangers welded to the rear frame rails.
- Sandwich an Axle Bearing between a pair of three-hole flangettes so that the spherical bearing surface is nested within the flared sections of the flangettes.
- With the set screw side of the Bearing collar outboard from the Bearing Hanger, place the Flangette/Bearing assembly on the outside of the right-hand side Bearing Hanger, lining up the top hole of the triangle with the top hole of the Hanger.
- Insert three 5/16-18 x 3/4" Bolts through the corresponding holes in the Flangettes and Bearing Hanger and secure with three 5/16-18 Locknuts. Tighten the Locknuts until snug, but do not torque down completely at this time.
- The remaining Flangette/Bearing installation, installed on the outside of the left-side bearing hanger, is similar, but uses longer, 3" Bolts which will also secure the Brake Spacer and, later, the Brake on the inside of the left-side Bearing Hanger.
- Assemble the other Bearing and two Flangettes as above. Using three 5/16-18 x 3" Bolts included in the Spacer Kit (Item 13a), install this bearing assembly on the outside of the left-side Bearing Hanger.

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## KART ASSEMBLY GUIDELINES

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- Line up the top hole of the Flangette/Bearing Assembly with the top hole of the Bearing Hanger. Insert the three 5/16-18 x 3" Bolts into the three holes of the Flangette/Bearing assembly from the outside, through the Bearing Hanger and in toward the center of the Kart.
- Install the Spacer Kit's 6" Brake Spacer on the inside of the Bearing Hanger so that the cutaway in the Spacer is resting snugly on top of the lower Frame rail and so that the already-installed 3" Bolts fit into the slots on the outer surface of the Spacer. (Do not install the Locknuts yet.)

### 9. INSTALL THE BRAKE

- Locate the Brake Assembly (Item 13). For shipping purposes, the 6" Brake is packed into the Brake Drum/Uni-Hub assembly. Remove the Brake from the Drum. Partially insert the Spacer Kit's two 5/16-18 x 3/8" Set Screws into the Holes in the Drum's Uni-Hub and for now, set the Drum aside.

**NOTE:** Resist any temptation to hand-activate the Brake arm. This makes it easier to keep the shoes, springs and cam aligned with the backing plate when you later have to position it within the Drum.

- Install the brake with its backing plate up against the Spacer. Align the Brake on the Spacer so that the cam is toward the rear of the kart at about the three o'clock position and the arm is pointing straight up.
- Insert the 3" Bolt ends protruding from the Brake Spacer into the corresponding holes of the Brake. Make sure the stepped end of the Spacer fits into the center hole of the Brake Backing Plate.
- Install the three 5/16-18 Locknuts included in the Spacer Kit onto the Bolts. Make sure the Locknuts clear the Brake Shoes. Tighten until snug, but do not torque down yet.

### 10. ASSEMBLE SPROCKET & HUB

- Locate the 72 Tooth Sprocket (Item 14) and the components of the Uni-Hub Kit (Item 12) .
- Bolt the Sprocket to the Uni-Hub using the six 1/4-28 x 1/2" Bolts and six 1/4-28 Hex Nuts by inserting the Bolts into the Uni-Hub first, through corresponding holes in the Sprocket and then installing and torquing down the Hex Nuts.

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## KART ASSEMBLY GUIDELINES

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### 11. BEGIN AXLE & SPROCKET INSTALLATION

**WARNING!** The Axle you are about to install is commonly known as a "Live Axle." This means that when the Kart moves, either forward or backward, **even if the engine is off and the Kart is merely being pushed**, the entire Axle spins. Inherent in this system is a very real danger of *any* items dangling near the Axle, for example, long hair, clothing, body parts, clothing drawstrings, scarves, shoelaces, etc., to be grabbed by the rotating axle, entangled and then yanked by and/or wrapped around the axle at a rapid rate. **THIS CAN EASILY RESULT IN SEVERE INJURY OR DEATH TO THE KART DRIVER OR BY-STANDERS. NEVER APPROACH THE KART WHILE IN POSSESSION OF ANY ITEMS THAT COULD POSSIBLY COME INTO CONTACT WITH THE AXLE, INCLUDING NOT ONLY CLOTHING, BUT HAIR, BODY PARTS OR ANY OTHER ITEMS WHICH COULD POSSIBLY BECOME ENTANGLED IN, OR CONTACT THE AXLE IN ANY WAY AND NEVER ALLOW ANYONE ELSE TO DO SO. INSTALL THE AXLE COVER AS EXPLAINED IN STEP 27 BELOW & NEVER OPERATE THE KART IN ANY MANNER WITHOUT IT. NOTE THAT WHILE THE AXLE COVER MAY LESSEN THE RISK, IT IS NEITHER DESIGNED NOR GUARANTEED TO FULLY PREVENT THE LIVE AXLE SPINNING & ENTANGLEMENT DANGER.**

- From the right side of the kart insert the 1" OD x 38" Axle (Item 9) through the axle bearing, pushing the leading end just beyond the engine mounting plate welded to the kart frame.
- Insert the 1" OD x 38" Axle through the outside of the installed right side Bearing so that the Axle is nearly to the center of the Kart.
- Slide the Sprocket and Hub assembly, hub-side first, onto the end of Axle between the Frame rails and back toward the right-hand side Bearing. Do not key the Sprocket/Uni-Hub assembly to the Axle yet (performed later in Step 19).

### 12. INSTALL THE BRAKE DRUM ASSEMBLY & SET THE AXLE

- In the same way, slide the Brake Drum and Hub assembly, hub-side first, onto the end of the Axle between the Frame rails.
- The Axle will be used as an alignment device. With the Sprocket and Brake Drum assemblies floating freely on the Axle, slide the left end of the Axle through the left Bearing and center the Axle so that equal portions extend out beyond each Bearing.

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## KART ASSEMBLY GUIDELINES

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- Holding the Axle fixed, slide the Brake Drum/Uni-Hub assembly over the Brake Shoes until it covers the Brake Shoes and bottoms against the Brake Backing Plate. Back the Drum off about 1/16".
- Locate the Spacer Kit's 1/4 x 1/4 x 1-1/4" Key. With the Axle centered, key the Brake Drum assembly to the Axle. Torque down the Brake Drum-Hub assembly's Set Screws securely.
- Rotate the Axle several times and then slide the Axle to the right to expose the Locknuts on the Brake. Now torque down the Brake Locknuts, about 1/4 turn past snug (about 10 ft-lbs.).
- Slide the Axle back to the left, re-positioning the Drum over the Brake Shoes so described above.
- If you can rotate the Axle freely, then fully tighten the Flangette Locknuts on the right side Bearing assembly.
- Making sure the Axle is centered, tighten down the set screws on both left and right-hand side Bearings.

**NOTE:** At this point, the Sprocket and Hub assembly is still freely floating on the Axle and will be set into position in Step 19.

### 13. ASSEMBLE REAR WHEELS

- Insert the remaining two Innertubes (Item 8) into the two Rear 5" Studded Tires (Item 7) and assemble the Rear Wheels in the same way as in Step 3, with the following exceptions:
- Each Rear Wheel included with the Rear Wheel Sets (Item 3) is comprised of 2 Wheel Halves; one has a 1" ID keyed Steel Insert and the other a 3/4" ID center hole and a single valve stem notch.
- Insert the Innertubes into the Rear Tires so that their valve stems fit into the single stem notch. Take care not to pinch the Innertube between the Wheel Halves when tightening the three 5/16-18 Nylon Insert Thin Locknuts onto the three 5/16-18 x 1-1/2" Fillister Head Screws.

**NOTE:** If your kit came with Aluminum as opposed to Nylon Wheels, you will use 5/16-18 x 3" or 5/16-18 x 3-12. Bolts provided with the rear Wheel sets, instead of Fillister Head Screws. Also, each Aluminum Wheel half has a valve stem notch which when fitted together form the valve stem hole.

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## KART ASSEMBLY GUIDELINES

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- Except as noted, assemble both Rear Wheels and inflate Rear Tires in the same way as with front Wheels/Tires in Step 3. Make sure to **follow all the same precautions** as those in Step 3.

### 14. MOUNT THE REAR WHEELS

- Install the Rear Wheels onto the axle with the 1" hole facing the frame. The step in the wheel should rest against the step on the axle. Key each wheel to the axle using a 1/4 x 1/4 x 1-1/4" key (Item 11).
- In the Bearing Kit are two 3/4-16 Locknuts. Secure one to each end of the axle to hold the wheels in place.
- Install the Bearing Kit's two 3/4-16 Axle Locknuts onto the Axle ends and tighten securely.
- **CAUTION:** Before any and each operation of your Kart, check to make certain that the Rear Wheels are properly keyed to the axle and that the Rear Wheel Locknuts are tight and secure. For additional safety, carefully drill holes in the Axle on the outside of the Wheel Locknuts (taking care not to ruin the threads) and Secure with cotter pins.

### 15. INSTALL CONTROL PEDALS

- Locate the components of the Pedal Set (Item 23).
- Insert the staked mounting bolts of each Pedal through the holes in the anchor loops welded to top front of the Frame side rails, with the Pedal mounting bolts facing in toward the center of the kart.
- Install a 5/16 Split Lockwasher followed by a 5/16-18 Locknut onto each Pedal mounting bolt. Tighten down securely. Pedals should operate freely, but should not be "sloppy."

### 16. INSTALL THE BRAKE CONTROL ROD

- Locate the Brake Control Rod Kit (Item 25). The Brake Control Rod is the longer (40-1/2") of the two 1/4" OD control rods supplied.
- From the outside, in toward the center of the Kart, insert the (non-threaded) end of the Brake Control Rod with the short 90° bend in it through the second-to-bottom hole in the Brake (left) Pedal shank.
- Install the Tinnerman Nut over the end of the Brake Control Rod protruding from the Brake Pedal.

## KART ASSEMBLY GUIDELINES

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- Twist the 1/4-28 Clevis onto the threaded (rear) end of the Brake Control Rod.
- Connect the Clevis to the Brake Actuating Arm by inserting the Clevis Pin into the Clevis hole, through the hole in the Brake actuating Arm and out the other side of the Clevis.
- Secure the Clevis to the actuating arm by inserting the single 3/32 x 3/4" Cotter Pin into the Clevis Pin hole and bending.

**NOTE:** It may be necessary to bend the Brake Control Rod slightly from its front so that it clears the Frame rail and Seat. Also, you may have to adjust the position of the Brake actuating arm which you may do by loosening the bolt, sliding it off the cam and repositioning on the cam splines.

### 17. MOUNT THE ENGINE

**NOTE:** Engine, Engine Mounting Hardware and Clutch are not provided with this kit. Ask your dealer to recommend an Engine and Clutch suited to the intended rider. Make sure to obtain engine, clutch and mounting hardware recommended by the Dealer.

- Mount your Engine onto the Frame's 4-slot engine mounting plate.
- Depending on your Engine model, some adjustment of the Axle and its components may be necessary to allow the Tire to clear the Engine.
- Insert Engine Mounting Bolts down through Engine's mounting holes and out through the bottom of the mounting plate's four slots. Install manufacturer recommended washers, locknuts, etc., but do not yet tighten down. Carefully slide the Engine as far to the rear of the mounting plate as possible.

**NOTE:** The engine remains in this position until Step 21.

### 18. INSTALL CLUTCH

- Install your Clutch onto the Engine crankshaft in the manner recommended by the manufacturer or your Dealer. Do not secure the Clutch into position yet. For example, if your Clutch comes with set screws, hand-tighten only.

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## KART ASSEMBLY GUIDELINES

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### 19. ALIGN CLUTCH & REAR SPROCKETS

- Position the Axle Sprocket (Sprocket/Uni-Hub assembly previously left free on the Axle) on the Axle and the Clutch sprocket on the Engine crankshaft so both sprockets are aligned in the same plane.
- Position a straight-edge on the tops of both the Clutch and Axle Sprockets.
- Adjust the Clutch/Clutch Sprocket on the Engine crankshaft and the Axle Sprocket on the Axle into positions where they are aligned in exactly the same line/plane.

**NOTE:** True, co-linear/co-planar alignment of the clutch sprocket with the rear wheel Sprocket is necessary to prevent excessive Chain wear and dangerous “jumping” of the Chain.

**CAUTION:** Never start the Engine without first installing an adequate and properly installed Chain Deflector. (The Chain Deflector supplied with this kit is installed in Step 22.)

- Once correctly positioned, secure the Clutch/Clutch Sprocket to the Engine crankshaft and then the Axle Sprocket to the Axle by keying it into place and torquing down the Sprocket/Uni-Hub assembly's set screws.

### 20. INSTALL THE CHAIN

- Locate the 47-5/8" length of #35 roller Chain and the Connecting Link (Item 28). For now, put the Connecting Link safely aside.
- Wrap the Chain around the teeth of the Clutch and Axle Sprockets forming a closed loop. With a piece of chalk, mark the link where the chain must be “broken.”
- Using a chain-breaker, cut the Chain at the marked link.
- Once sized correctly, re-wrap the Chain around both Sprockets and complete the Chain loop by securing it with the Connecting Link.

**NOTE:** The closed end of the Connecting Link's spring clip should point in the direction the Chain advances during operation.

### 21. POSITION & SECURE ENGINE

- Carefully slide the Engine forward on the engine mounting plate until the Chain is SNUG, BUT NOT TIGHT. Take special



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## KART ASSEMBLY GUIDELINES

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care not to allow the Engine to slip sideways as this will ruin the Sprocket alignment.

- After the engine is in its forward, “chain-snug” position, make certain the clutch and rear sprockets are exactly aligned and then secure the engine in place by tightly torquing down the Engine mounting hardware.

**NOTE:** If the sprockets sneak out of alignment, leave the engine in its forward, chain-snug position and realign the sprockets.

### 22. INSTALL THE CHAIN DEFLECTOR

- At this time, please review the “Chain Deflector Warning” on the “Important Warnings” page and the “Caution” in Step 19.
  - A chain deflector **IS designed** to help prevent a broken chain, or one that has “jumped” off its sprockets, from flying out and away from the kart and causing injury to the Kart driver or bystanders by “deflecting” it to the ground. As a result, a Chain Deflector is required at all times during any operation of the engine or Kart.
  - A chain deflector **IS NOT designed**, and is unlikely to prevent items from coming into contact with or becoming entangled in the Chain or Sprockets. Examples: long scarves, long hair, baggy clothing, shoelaces, fingers or other body parts, etc.—generally, any item which could possibly dangle into the area of chain operation. **Such entanglements could cause serious injury or death. NEVER USE, WEAR OR CARRY ANY ITEMS WHICH MIGHT POSSIBLY BECOME SO ENTANGLED NOR PLACE ANY PART OF YOUR BODY CLOSE TO CHAIN AND/OR SPROCKET.**
- Position and install the chain deflector onto the engine (Item 32). Hardware is not provided; most engines have bolts pre-installed which are appropriate for chain deflector installation.

### 23. INSTALL THE THROTTLE CONTROL ROD

- Locate the Throttle Control Rod Kit (Item 24).
- Locate the two throttle rod support brackets welded to the side of the right Frame rail. Pass the threaded, unbent end of the 1/4 x 30" Throttle Control Rod through the hole in the front support bracket.
- Insert the end of the Throttle Control Rod with the short bend in it into the next-to-bottom hole in the shank of the throttle


## KART ASSEMBLY GUIDELINES

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(right-side) pedal.

- Install the Tinnerman Nut over the end of the Throttle Control Rod protruding from the Throttle Pedal.

### 24. COMPLETE THROTTLE INSTALLATION

- Slide the 1/4 x 1-7/8" Spring, large end first, over the threaded end of the Throttle Control Rod push it up against the rear of the front support bracket.
- Twist the 1/4-28 Hex Nut  onto the threaded end of the Throttle Control Rod until a slight tension against the Spring is established.
- Slip the black plastic Cable Guide over the end of the Throttle Cable/Conduit (54" Cable housed in 50" Conduit).
- Press the stepped end of the Cable Guide into the back side of the hole in the rear throttle support bracket.
- Remove the 54" Cable from the 50" Conduit and cut the Conduit to a length appropriate for your particular throttle application.
- Connect the barrel end of the Throttle Cable to the Engine's throttle control and thread the other end back through Conduit until it comes out at the support bracket.
- Insert the end of the Cable into the hole in the threaded end of the Throttle Control Rod and pull it until snug, removing any slack.
- Slide the Wire Stop onto the Cable and tighten it in position against the Throttle Rod so that movement of the Rod activates the cable.
- Cut off excess Cable leaving about 2" protruding out of the Wire Stop for possible future adjustments.

**WARNING:** Prior to any, and every kart operation or Engine engagement, Throttle operation must be smooth and free of "sticking." Throttle must shut off immediately when released. Failure requires purchase and installation of an appropriate throttle return spring onto the engine throttle control mechanism so a positive "shut-down" is assured when throttle is released.

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## KART ASSEMBLY GUIDELINES

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### 25. MOUNT THE BUCKET SEAT

- Locate the Bucket Seat Kit (Item 26). The seat's 4 mounting Anchors have been pre-installed into the Bucket Seat's mounting holes, secured by 4 pre-installed hose clamps.
- With a hammer or vice, close the loops on the ends of each Mounting Bracket until they are 1-1/4" to 1-1/2" on the outside. This should make it necessary to tap gently in order to fit the Bracket loops over the frame rails when securing the mounting bracket/seat assembly to the Frame rails as described below.
- Install the four 1/2 x 1-1/2" Anchor Bolts up through the bottom of the slots in the Brackets and into the mounting anchors pre-installed in the Bucket Seat, so that the Bucket Seat's base is secured to the Mounting Brackets.

**NOTE:** Be sure to fasten the longer Bracket to the rear of the Seat.

- Snap the Mounting Bracket loops over Frame side rails and insert 5/16-18 x 1-3/4" Bolts through Bracket loop holes.
- Secure with the four 5/16-18 Locknuts and tighten securely.

### 26. INSTALL THE KILL BUTTON SWITCH

- Install the Engine Kill Button Switch (Item 31). Locate the Button where it can be easily accessed and activated by the Kart driver.

### 27. INSTALL THE AXLE COVER

- Locate the center-slit 1.5' piece of Axle Cover Flex Conduit Tubing (Item 33). Cut pieces exactly to size of, and snap on exposed portions of the rear "live" axle. (Size pieces large enough to cover exposed axle, but not so large that they will interfere with sprocket or braking operations.)
- **WARNING: DO NOT EVER OPERATE OR EVEN HAND-PUSH THE KART WITHOUT THE AXLE COVER IN PLACE. AT ALL TIMES, HEED ALL WARNINGS GIVEN IN "IMPORTANT WARNINGS" AT THE BEGINNING OF THIS BOOKLET AND IN STEP 11, PAGE 8. NOTE THAT THE AXLE COVER MAY LESSEN THE RISK, BUT WILL NOT FULLY PREVENT THE LIVE AXLE SPINNING DANGER.**

### 28. SAFE ASSEMBLY & OPERATIONS REVIEW

- Time to review all assembly and check all operations.

## KART ASSEMBLY GUIDELINES

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- Review each assembly guideline in this booklet, inspecting your assembly as you go. Make sure every assembly operation has been completely and properly performed and that all Kart functions are fully and properly operable. Determine whether any unanswered questions or unresolved problems exist.
- Check all fasteners (nuts, bolts, screws, clamps, etc.) and make sure they are installed properly and secure.
- Check the steering operation, making certain that full-range of operation is available and unhindered throughout the entire range of steering operation.
- Check the wheels making sure they are securely and properly fastened to the Axle and Spindles, but spin freely and unhindered.

**WARNING:** No additional items or accessories should ever be added to the kart, nor worn or carried by any rider which would in any manner hinder any operation or function or contact or interfere with any moveable parts of the Kart including any engine parts.

- Ensure that the Throttle Pedal is properly installed, that Throttle operation is smooth, unhindered and “non-sticky” and that when released, throttle completely disengages.
- Check braking system for proper installation and operation. When the Brake Pedal is depressed, the Brake must engage and lock the rear Axle prior Brake Pedal being fully depressed.
- Double-check for proper Sprocket alignment and snug, but not over-taut chain tension.
- **WARNING: PROPER & COMPLETE ASSEMBLY BEFORE ANY OPERATION IS MANDATORY. PROBLEMS OR QUESTIONS OF ANY KIND WHICH YOU ARE UNABLE TO RESOLVE REQUIRE YOU TO SEEK THE SERVICES OF A FULLY QUALIFIED AND KNOWLEDGEABLE PROFESSIONAL. THE SAFETY OF ANY AND ALL DRIVERS DEPENDS UPON IT.**

### 28. PRIOR TO OPERATION . . .

- Read/follow the engine manufacturer’s instructions carefully.
- Check the engine crankcase for proper engine oil levels and the fuel line connections before adding fuel and starting the engine.
- Fun & Safe Karting!

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## KART ASSEMBLY GUIDELINES

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