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MATERIAL LIST FOR MINI-BIKE

1. Steel

- (a) 20' of 7/8" OD x .085 wall welded 1025 grade tubing for frame and fork
- (b) 7' of 5/8" ID x aprox .085 wall seamless 1025 tubing for axle and fork support
- (c) 2 pieces of 1/8" plate 3" x 7 1/4" for front fork support plates
- (d) 2 pieces of 3/16" plate 2 1/2" x 3 1/4" for rear axle support brackets
- (e) 1 piece of 1/8" plate 5 1/2" x 5 1/2" for seat plate
- (f) 1 piece of 1/8" plate 8 1/8" x 6 1/2" for motor mount.
- (g) 2 pieces of 5/8" steel shaft x 7 1/2" long for front and rear axles

2. Engine

Engine should be a 4 cycle horizontal shaft design such as Tecumseh.
Horse power should be no more than 4 h.p.

3. Wheels

You should have a 4:10 x 3:50 x 5 rib wheel and tire assembly with demountable hug (5/8 inch bearings) and the rear should be 4:10 x 3:50 x 5 stud tire design with hub and 5/8 inch ball bearings.

4. Brake

The brake can be of internal expansion design small enough so it will fit in the wheel or a combination brake with #35A60 tooth sprocket is recommended. A scrub type foot brake can also be used.

5. Clutch

An automatic clutch with a 10 tooth sprocket for #35 chain is needed to fit your 5/8 inch engine shaft. The 10 tooth sprocket and the 60 tooth rear sprocket give you an ideal gear ratio of 6:1.

6. Chain

Any good #35 roller chain will work. You will need approximately 4 feet

7. Throttle Control

A twist grip throttle control with a 7/8" inside diameter for the front handle bar is needed. You will need about 36" of cable to your engine.

8. Brake Handle

A brake handle for 7/8" tube and 66" cable are needed for your brake control if you use the internal expansion brake.

9. Bolts and Nuts

- (a) 1 only 5/8" x 5" bolt and self-locking nut to hold front fork to main frame
- (b) 4 only 5/8" nuts (not self-locking) for rear axle
- (c) 2 only 5/8" self-locking nuts for front axle
- (d) 6 only 5/8" washers for front and rear axles
- (e) 4 only 1/4" x 1" engine mounting bolts and self-locking nuts
- (f) 2 only woodscrews 1/2" roundhead to hold seat to seat plate

10. Seat, Handlegrips (3 only 7/8") and paint (your favorite color)

plans

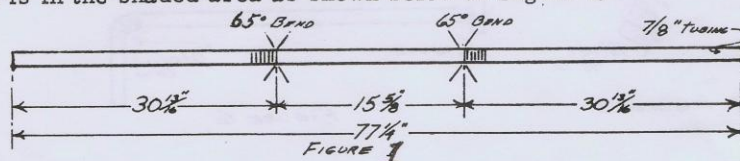
MINI BIKE PLANS

Page 1

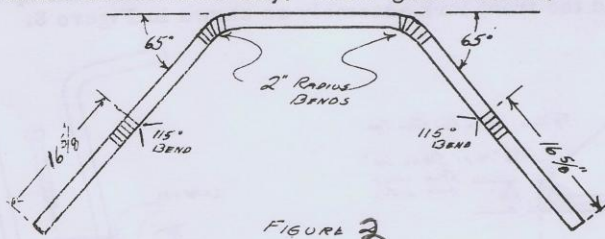
INTRODUCTION

Before starting to build your Mini-Bike, be sure that you have all the parts shown on the material list. You will note that tubing has been used in the construction. The advantages of using tubing far outweigh the additional time for building. You will need all the common household tools, plus access to a 7/8 inch tubing bender and also a welder.

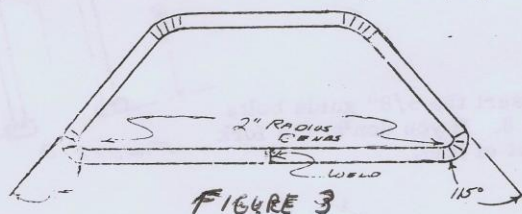
1. Lay out 2 pieces of 7/8" tubing and mark for bending as shown. Remember that the bend is in the shaded area as shown below in Figure 1.



2. After you have your first 2 bends, mark for the next 2 bends as shown. Be sure that you bend in the shaded area only. See Figure 2 below.



3. Now you have all four bends completed, weld each side member together as shown. Your main side members are now complete. (Figure 3 below)



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MINI BIKE PLANS

Page 2

4. Lay out 2 pieces of 7/8" tubing each 31" long. Mark and bend in shaded area as shown below.

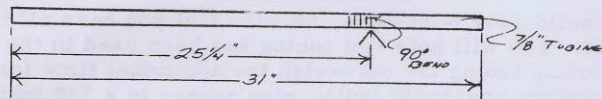


FIGURE 4

5. Cut 2 pieces of 7/8" tubing, with a 5/8" inside diameter, as shown in Figure 5. Weld to the 2 pieces of tubing you have just bent as shown in Figure 6.

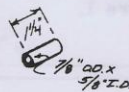


FIGURE 5

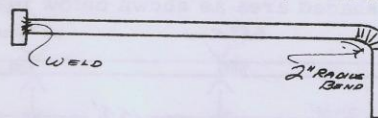


FIGURE 6

6. Make 2 pieces as shown in Figure 7 out of 1/8" plate steel. There is a full size pattern on the back of this sheet. Using 5/8" bolts to line up the plates and the axle, weld the front fork assembly as shown in Figure 8.

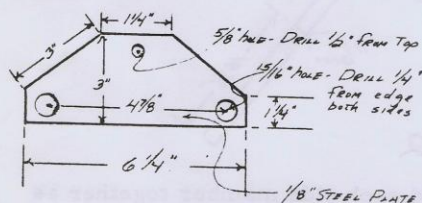


FIGURE 7

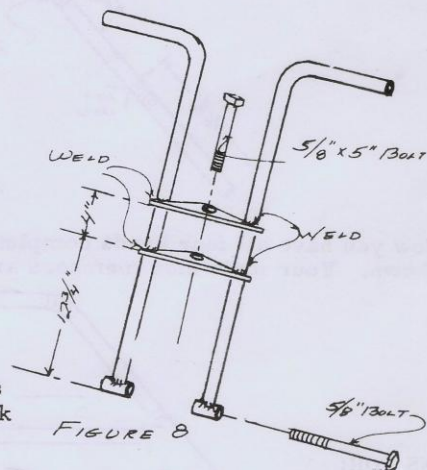
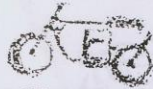


FIGURE 8

Note: Be sure that you insert the 5/8" guide bolts as shown in Figure 8. If you don't, the fork assembly will be out of line.

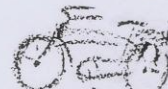
PLANS FOR:



• Mini Bikes



• Racing Karts



• Motor Bikes

plans

MINI BIKE PLANS

Page 3

7. Make 2 rear axle supports out of $3/16"$ plate as shown in Figure 9. See back on page 3 for full size pattern. Cut off a piece of $5/8"$ ID tubing for the front fork support as shown in Figure 10. Make the motor mount and seat plate out of $1/8"$ plate as shown in Figure 11 and 12. Do not drill holes for the engine yet.

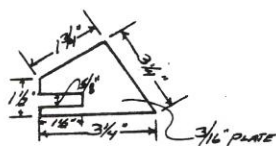


FIGURE 9

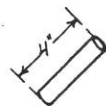


FIGURE 10

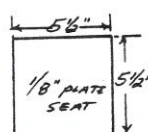


FIGURE 11

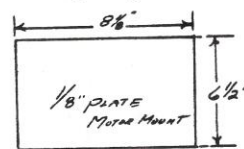


FIGURE 12

8. Weld the 2 main side members you have made as shown in Figure 13 below. To hold the proper distance between each side member, we would suggest that you make wood blocks the proper length to use as spacers between the side members and clamp together before welding. Weld the seat plate as indicated. Next weld the front foot rest as shown. Weld the front fork tube at the proper angle as indicated. Weld on the 2 rear axle supports so that the bottom of each support is flush with the top of the frame tube. Better use $5/8"$ axle bolt to make sure you have lined them up correctly. Be sure to weld to the inside of the frame as shown. Note that you are not to weld the engine mount on yet.

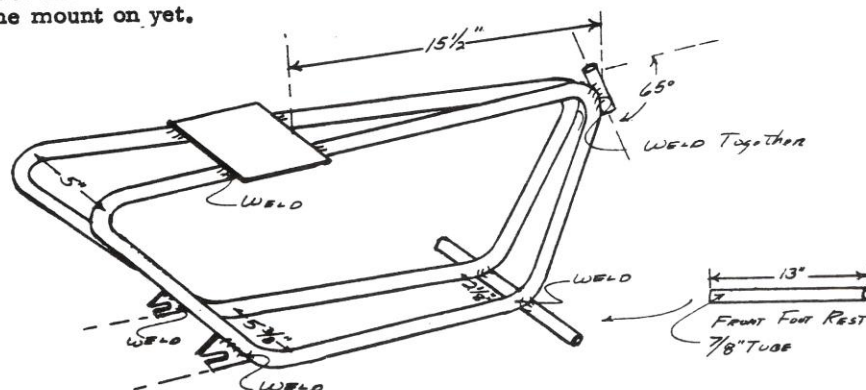


FIGURE 13

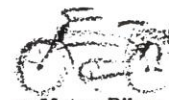
PLANS FOR:



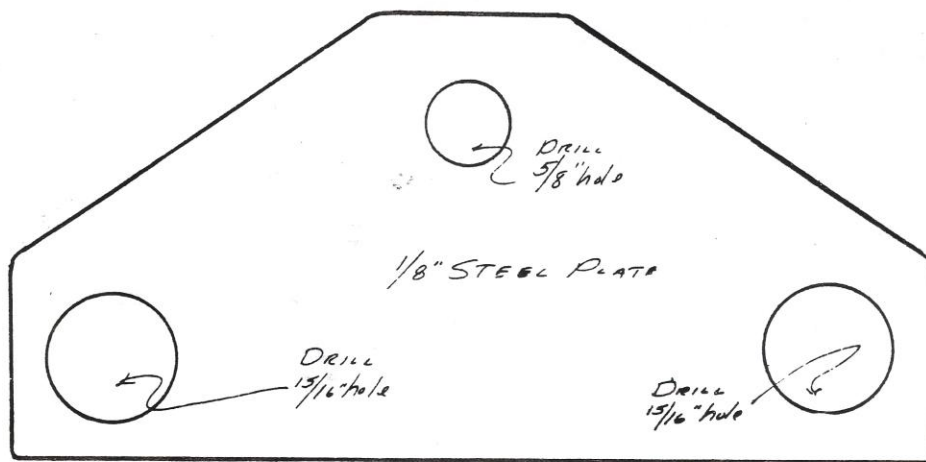
• Mini Bikes



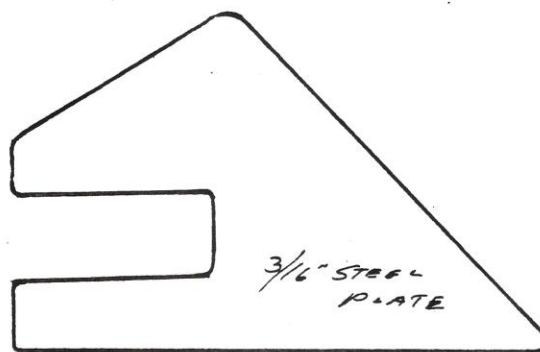
• Racing Karts



• Motor Bikes



Full size front fork plate pattern to be made out of 1/8" steel plate. 2 required.



Full size rear axle support to be made out of 3/16" plate. 2 required.

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MINI BIKE PLANS

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9. Bolt on the front fork assembly, using a $5/8"$ $\times$ $7"$ bolt and self-locking nut. Spray paint the entire frame your favorite color.

10. Make 2 axles as shown in Figure 14 below using an SAE thread $1 1/2"$ each end.

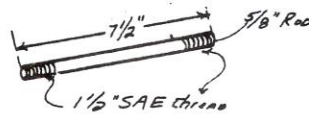


FIGURE 14

11. Install the front wheel assembly as shown in Figure 15, using a self-locking nut at each end of the axle.

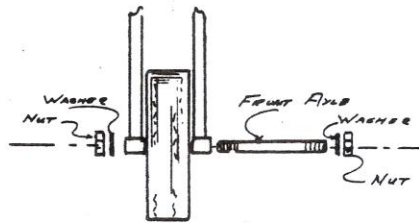


FIGURE 15

12. Weld the brake drum and sprocket assembly to the hub of the rear wheel as shown in Figure 16 below. Before welding check to make sure that you have $3/8"$ clearance between the sprocket and the tire. Bolt the hub to the rear wheel.

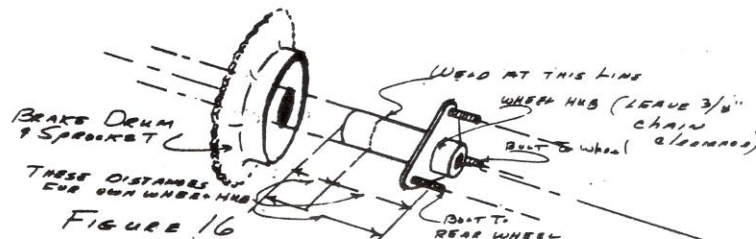


FIGURE 16

PLANS FOR:



• Mini Bikes



• Racing Karts



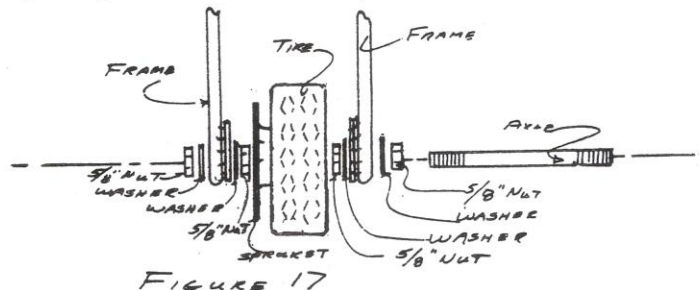
• Motor Bikes

plans

MINI BIKE PLANS

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13. Install the rear wheel assembly to the frame as shown in Figure 17 below. (Insert the axle through the hub of the wheel, put on 5/8 jam nuts. Then put on a washer on each side and slide onto the frame. Install another washer and 5/8 nut and tighten.)



14. Install your clutch to the engine shaft, keeping the sprocket of the clutch as close to the engine as possible. Now, place the engine mount on the frame and weld in the proper position. Next, place your engine on the mount, using a chain to line the clutch and rear sprocket. Mark and drill holes and bolt your engine to the mount. Install chain. Connect the twist grip throttle control on the right handle bar to the engine, and brake handle on the left to the brake drum.

15. Cut a piece of 3/8" plywood as shown in Figure 18. Cut a piece of 2" or 3" foam the same size as the plywood. Cover with water resistant fabric, using tacks to fasten the fabric to the plywood. Drill two holes in the seat plate on the frame, and using wood screws, screw the seat to the frame. You are now ready to ride your Mini Bike. Drive carefully.

PLANS FOR:



• Mini Bikes

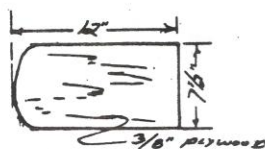


FIGURE 18



• Racing Karts

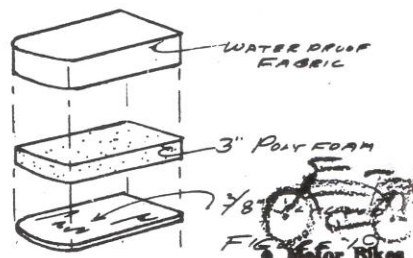


FIGURE 19



• Motor Bikes

GO KART PLANS

MATERIAL LIST

STEEL

- (A) 12' of 1" O.D. x .085 wall welded 1025 grade tubing for main frame.
- (B) 10' of 3/4" O.D. x .065 wall welded 1025 grade tubing for hoops and side rest.
- (C) 20" of 3/4" steel shaft for steering shaft.
- (D) 2' of 3/8" rod tie rods.
- (E) 13" of 1-1/4" x 1/4" strip for spindle support brackets.
- (F) 6" of 1" x 3/16" strip for steering and throttle support brackets.
- (G) 6" of 5/8" I.D. x approximately .085 wall seamless tube for front spindles.
- (H) 2' of 3/4" x 1/4" strip for pedals, tie rod arms and throttle arms.
- (I) 9" x 5" x 3/16" plate for motor mount.
- (J) 5" x 1-1/2" x 3/16" strip for motor mount.
- (K) 6" of 1-1/2" x 1/8" strip for pedals.
- (L) 2-1/2" x 2" x 1/4" piece for steering plate.
- (M) 3' of 1/4" rod for brake and throttle rod.
- (N) 1 piece of 16" x 50", 20 gauge sheet metal for floor pan and seat back.

ENGINE

Should be a 4-cycle engine with a horizontal crankshaft. Briggs & Stratton engine, either 3 H.P. through 5 H.P. can be used.

Engine crankshaft should be 3/4" or 5/8" diameter and approximately 2-1/4" long.

WHEELS AND DRIVE SPROCKET

You should have two 4:10 x 3:50 x 5" wheel assemblies for the front of the Go Kart.

For the rear, you should have a 4:10 x 3:50 x 5" wheel assembly, and if you are building a single wheel drive Go Kart, you can use the same wheel assembly,

The bearing size in all of the wheels should be 5/8".

BRAKE

Use our Drum Brake ORDER # MWSB5308. It will attach to our Drive Wheel ORDER # 355DBSP72TT. See our Catalog for description. For brake cable, use our AZ1752 cable, and brake pin C200847A.

CLUTCH OR SPROCKET

Use a centrifugal clutch with an 11 or 12 tooth sprocket for #35 chain. Use our Centrifugal Clutch, ORDER # C209760A if your engine has a 3/4" diameter crankshaft. If your engine has a 5/8" diameter crankshaft, use our Centrifugal Clutch ORDER # C209748A.

CHAIN

Use #35 chain, You will need approximately 3 feet of chain plus a master link,

TIE ROD

You will need 4 tie rod ends, with 3/8" thread and self locking nuts. You will also need 4 jam nuts, Or you can order 2 of our tie rod kits, and cut to fit. You can also make your own tie rods as shown in STEP 15, thread size will be 3/8" x 24 SAE.

STEERING WHEEL

You can use our steering wheel, this will fit the 3/4" steering shaft, or build your own.

BOLTS & NUTS

- (A) 2 only 5/8" x 5-1/2" bolts and self locking nuts for rear axle.
- (B) 2 only 5/8" x 3-1/2" bolts and self locking nuts for spindle.
- (C) 2 only 5/8" x 4" bolts and self locking nuts for front axle.
- (D) 2 only clevises for 3/16" brake and throttle rods with nuts.
- (E) 4 only 1" x 1/4" bolts and self locking nuts for engine mounting.
- (F) 2 only 1-1/2" x 1/4" bolts and self locking nuts for brake and throttle pedal.

SEAT

The seat fabric should be of a water proof type. You will need a piece of 3/8" plywood, 13" x 30" for the bottom board. You will also need a piece of 1" foam the same size.

PAINT

Paint should be a spray on type enamel, quick drying.

GO KART BUILDING & ASSEMBLY PLANS

INTRODUCTION

Before starting to build your kart, be sure you have all the parts shown on the material list. You will note that tubing has been used in the construction. The advantages of using tubing far out-weigh the additional time for building. You will need all the common household tools, plus access to a 3/4" and a 1" tubing bender, and also an electric welder. Use an ARC welder, MIG welder or TIG welder. Do not use a gas welder.

1. LAY OUT 2 PIECES OF 1" DIAMETER TUBING, EACH 44" LONG, AND MARK FOR BENDING AS SHOWN BELOW IN FIGURE 1. NOW MAKE YOUR BEND SO THAT EACH SIDE RAIL LOOKS LIKE FIGURE 2.



FIGURE 1

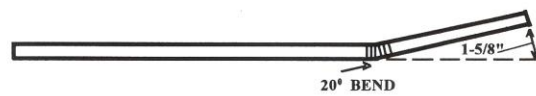


FIGURE 2

2. CUT THE REAR FRAME PIECE 26" LONG FROM 1" TUBING. SEE FIGURE 3 BELOW.

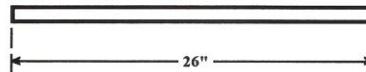


FIGURE 3

3. LAY OUT THE FRONT FRAME TUBE 24-1/2" LONG OUT OF 1" TUBING. MARK FOR BENDING AS SHOWN IN FIGURE 4. BEND AS SHOWN IN FIGURE 5.

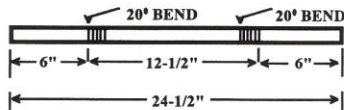


FIGURE 4

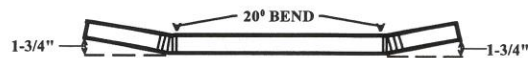


FIGURE 5

4. CUT EACH END OF THE FRONT FRAME TUBE AS SHOWN BELOW IN FIGURE 6.

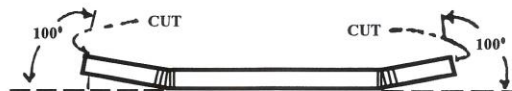


FIGURE 6

GO KART BUILDING & ASSEMBLY PLANS

5. USING 3/4" TUBING, MARK AND BEND THE REAR SEAT HOOP AS SHOWN IN FIGURE 8 AND 9.

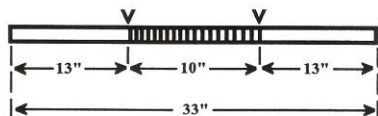


FIGURE 8

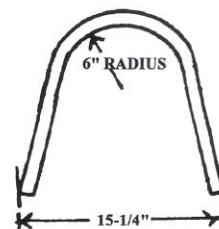


FIGURE 9

6. ALSO USING 3/4" TUBING, MARK AND BEND THE FRONT STEERING SUPPORT HOOP AS SHOWN IN FIGURES 10 AND 11.

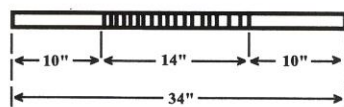


FIGURE 10

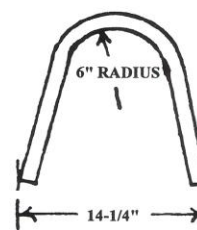


FIGURE 11

7. BEND 2 FRONT SPINDLE SUPPORT BRACKETS AS SHOWN IN FIGURE 12. BE SURE THAT YOU LEAVE 2-1/2" INSIDE MEASUREMENT. DRILL 5/8" HOLES AS SHOWN IN FIGURE 13 BELOW.

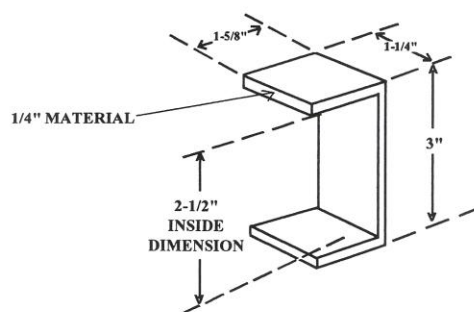


FIGURE 12

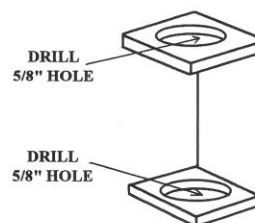


FIGURE 13

GO KART BUILDING & ASSEMBLY PLANS

8. MAKE 2 STEERING SUPPORT BRACKETS AS SHOWN IN FIGURE 14 BELOW. ALSO MAKE 2 SIDE RESTS OUT OF 3/4" TUBING AS SHOWN IN FIGURE 15 BELOW.

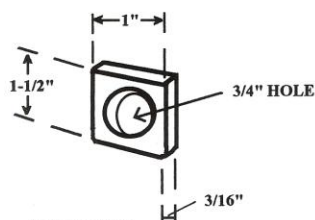


FIGURE 14

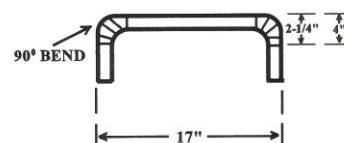


FIGURE 15

9. WELD THE MAIN FRAME MEMBERS AS SHOWN BELOW IN FIGURE 16. TILT THE FRONT SPINDLE SUPPORT BRACKETS BACK AT THE TOP FIVE DEGREES FOR CASTOR. SEE DETAIL 'A'. WELD ON THE FRONT AND REAR HOOPS AS SHOWN IN STEPS 5 AND 6. ALSO WELD THE STEERING SUPPORT BRACKETS SHOWN IN STEP 8 (FIGURE 14) TO THE FRAME AS SHOWN IN FIGURE 16. NEXT, WELD ON THE 5/8" X 5-1/2" BOLTS ON THE REAR FRAME TUBE. NOW WELD ON THE SIDE REST AS SHOWN.

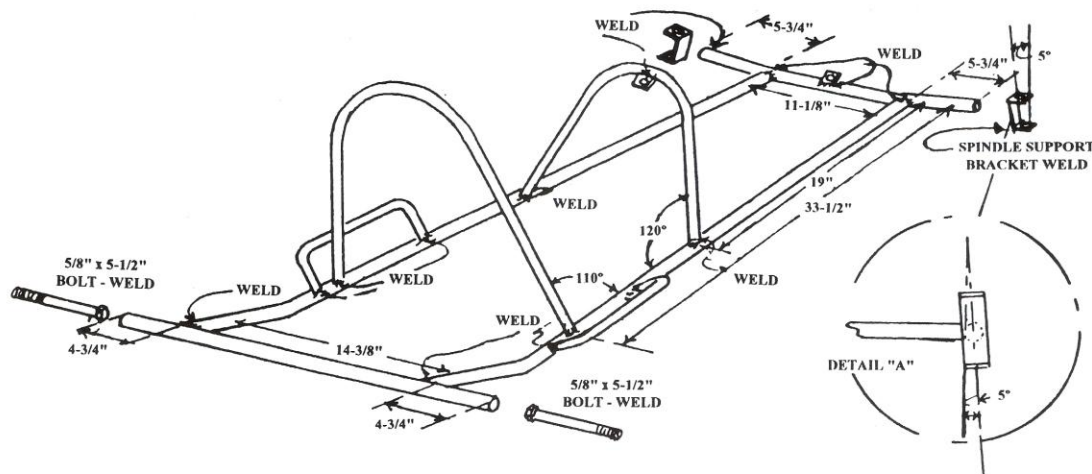
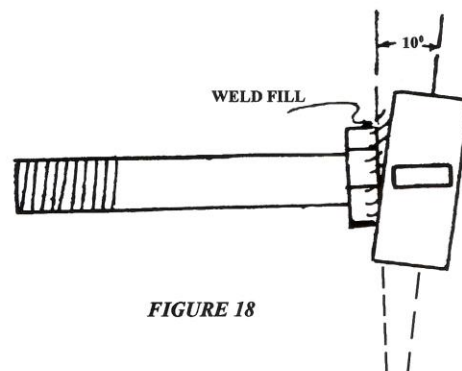
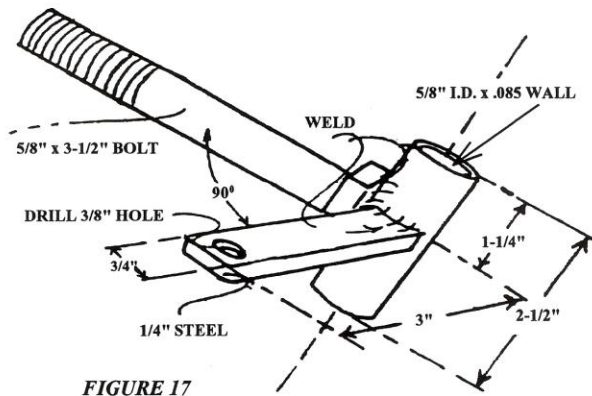


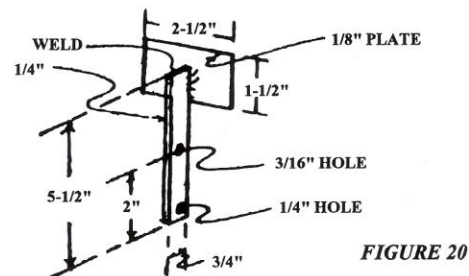
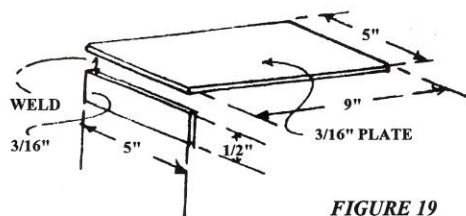
FIGURE 16

GO KART BUILDING & ASSEMBLY PLANS

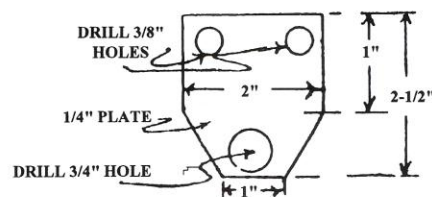
10. WELD THE FRONT SPINDLES AS SHOWN IN FIGURES 17 AND 18 BELOW. NOTE IN FIGURE 18 THE 10 DEGREES OF CAMBER. MAKE A RIGHT AND A LEFT SPINDLE.



11. MAKE THE MOTOR MOUNT AS SHOWN IN FIGURE 19. DO NOT DRILL HOLES FOR ENGINE YET. WELD PEDALS AS SHOWN IN FIGURE 20. TWO ARE REQUIRED.

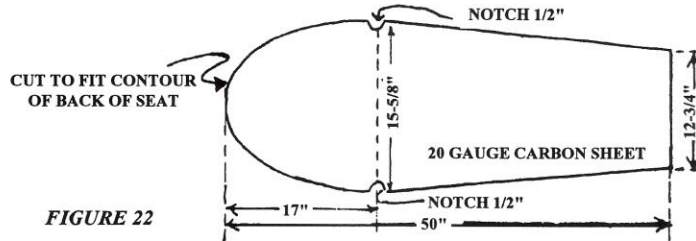


12. MAKE THE STEERING PLATE (FIGURE 21). (L) IN STEEL MATERIAL LIST.

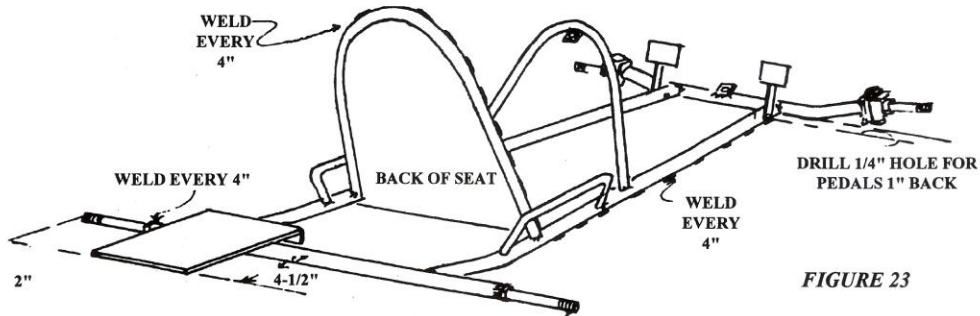


GO KART BUILDING & ASSEMBLY PLANS

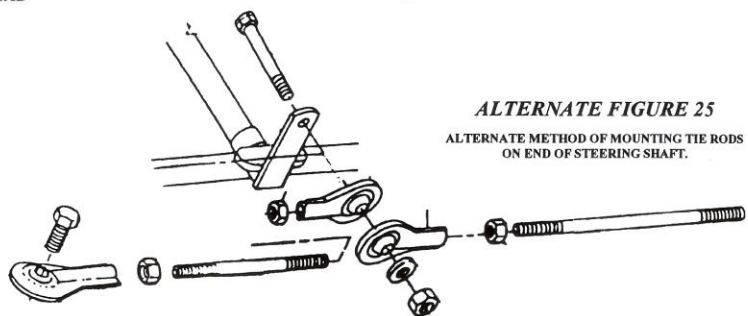
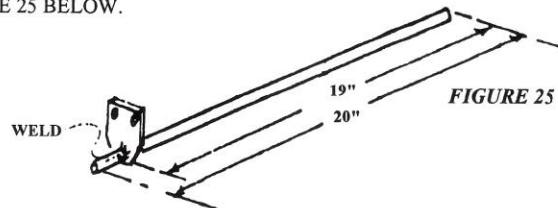
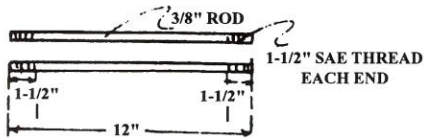
13. CUT FLOOR PAN AND BACK OF SEAT AS SHOWN IN FIGURE 22 BELOW. BEND ON DOTTED LINE.



14. WELD ON FLOOR PAN AND BACK OF SEAT EVERY 4 INCHES. WELD ON MOTOR MOUNT AS SHOWN IN FIGURE 23 BELOW. INSTALL PEDALS AND FRONT SPINDLES.



15. MAKE 2 TIE RODS AND THREAD EACH 1-1/2" LONG. THREAD ROD ON EACH END 3/8 x 24 AS SHOWN IN FIGURE 24, OR USE OUR TIE ROD KITS AS SHOWN IN #7 OF THE MATERIAL LIST PAGE. WELD THE STEERING PLATE TO THE STEERING SHAFT AS SHOWN IN FIGURE 25 BELOW.



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16. MAKE A THROTTLE ROD AS SHOWN IN FIGURE 26. RECHECK THE LENGTH OF THE ROD TO MAKE SURE IT IS THE PROPER LENGTH FOR YOUR GO KART. THREAD THE END OF THE ROD 1" USING 1/4" X 28" THREADS, OR USE THROTTLE ROD KIT

DRILL A 1/16" HOLE, 1/8 OF AN INCH FROM THE END OF THE THROTTLE ROD AND PUT THE THROTTLE CABLE THROUGH. USE THROTTLE CABLE IF YOU ARE MAKING YOUR OWN THROTTLE ROD. THE CABLE COMES WITH THROTTLE ROD KIT

YOU WILL ALSO NEED A NYLON CABLE ADAPTER, A WIRE STOP, A SPRING, AND A TINNERMAN NUT. THESE PARTS ARE INCLUDED IN THE THROTTLE ROD KIT

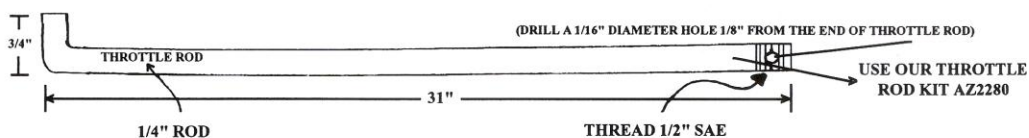


FIGURE 26

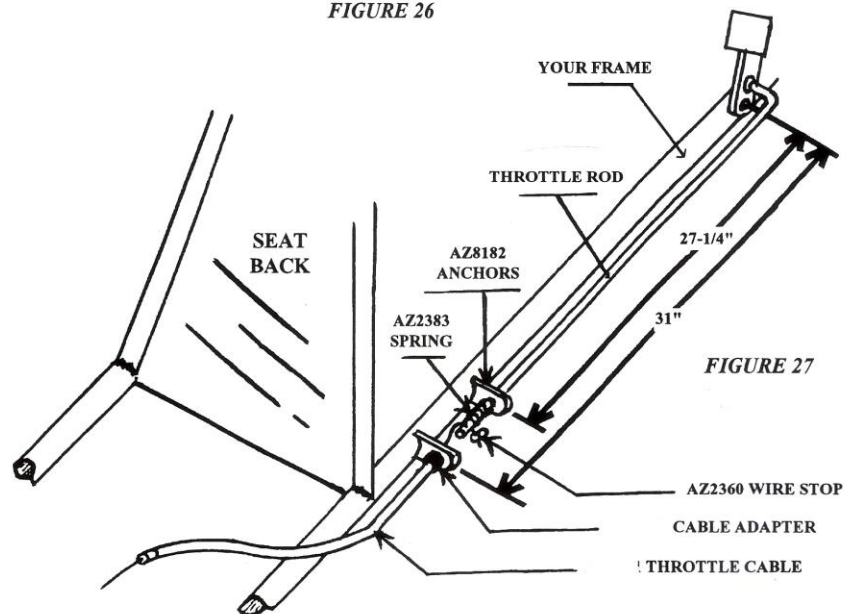


FIGURE 27

17. YOU WILL NEED TO MAKE TWO (2) CONTROL ROD ANCHORS, SEE FIGURE 28, AND WELD THEM TO YOUR FRAME AS SHOWN IN FIGURE 27, OR YOU CAN USE OUR CONTROL ROD ANCHORS AND WELD THEM TO YOUR FRAME.

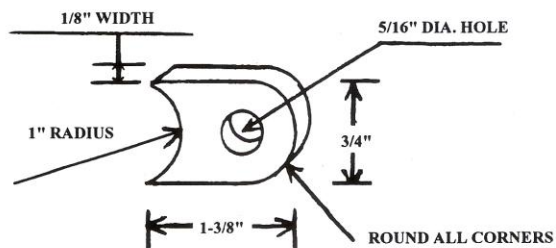


FIGURE 28

18. SLIDE THE STEERING SHAFT THROUGH THE 2 STEERING SUPPORT BRACKETS, SEE STEPS 8 & 9, AND WELD ONE WASHER ON THE STEERING SHAFT ON EACH SIDE OF THE STEERING SUPPORT BRACKET SO THAT THE STEERING SHAFT WON'T SLIDE BACK THRU THE SUPPORT BRACKET. THEN INSTALL TIE RODS AS SHOWN. YOU CAN USE TIE ROD ENDS SHOWN OR TIE ROD ENDS. MAKE SURE TIE RODS ARE NOT BINDING, THAT THEY WORK FREELY AND THAT THEY ARE NOT TOUCHING ANY BOLT HEADS ON THE STEERING PLATE.

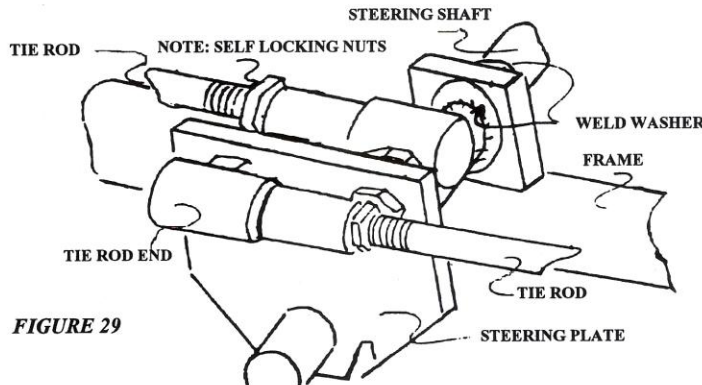
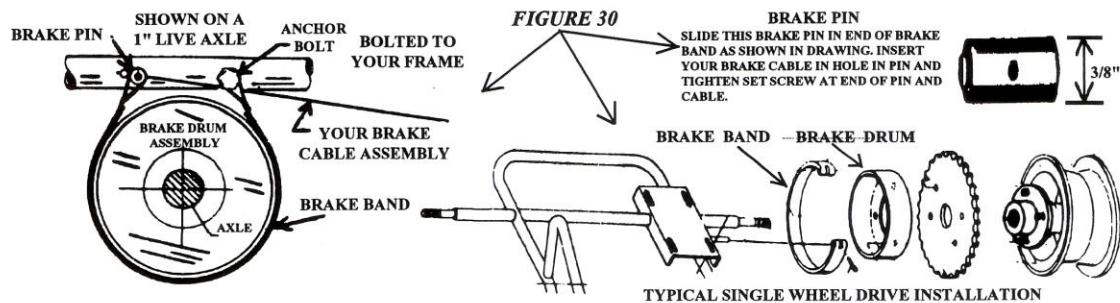


FIGURE 29

19. YOU ARE NOW READY TO INSTALL THE BRAKE. SEE STEP 4 ON THE MATERIAL LIST. USING OUR WHEEL, BOLT THE BRAKE DRUM TO THE WHEEL. INSTALL THE BRAKE BAND ON THE BRAKE DRUM. SEE FIGURE 30. WELD A BOLT ON YOUR FRAME TO ANCHOR ONE END OF THE BRAKE BAND TO YOUR FRAME, AS SHOWN IN THE DRAWING (FIGURE 30). USE BRAKE CABLE AND BRAKE PIN. YOU CAN NOW BOLT ON THE OTHER WHEELS AND INSTALL YOUR FAVORITE STEERING WHEEL. OR USE THE MANCO STEERING WHEEL.



20. INSTALL THE CLUTCH ON YOUR ENGINE AND PLACE ENGINE ON THE ENGINE MOUNT. USING #35 CHAIN, LINE UP THE ENGINE SPROCKET WITH THE SPROCKET ON THE WHEEL. DRILL HOLES AND BOLT ENGINE TO THE MOUNT. NEXT, CONNECT THE THROTTLE, SEE STEP 16. REMEMBER, LEFT HAND ENGINE MOUNTING IS FOR COUNTER-CLOCKWISE ENGINE SHAFT ROTATION.
21. YOU ARE NOW READY TO PAINT THE GO KART YOUR FAVORITE COLOR.
22. CUT 2 PIECES OF 3/8" PLYWOOD AS SHOWN BELOW IN FIGURE 31. CUT FOAM THE SAME SIZE AS PLYWOOD. YOU WILL HAVE TO MAKE BACK SEAT PATTERN FROM FRAME OF KART. COVER WITH WATER RESISTANT FABRIC, USING SMALL NAILS OR STAPLES TO FASTEN THE FABRIC TO PLYWOOD. FASTEN SEAT TO KART USING WOODSCREWS. YOU ARE NOW READY TO RIDE YOUR KART. DRIVE CAREFULLY.

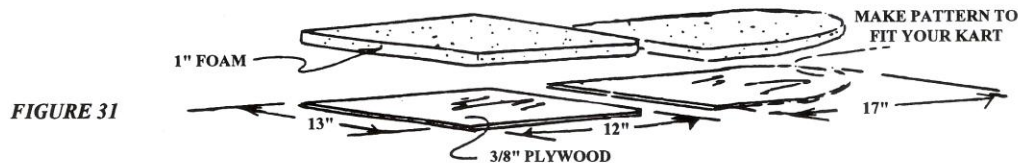


FIGURE 31