

This manual contains the information necessary for the proper operation of your new Free-Way II gas powered vehicle. Please read through this information carefully so you understand our recommendations for the operation of the vehicle.

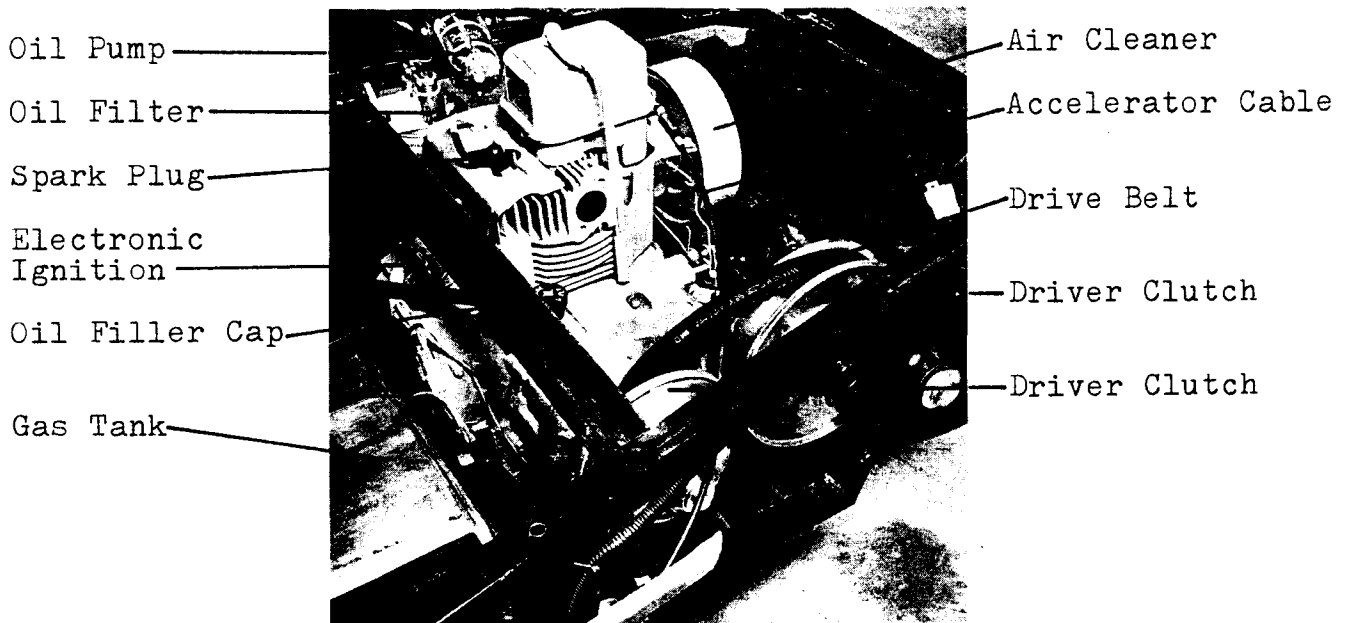
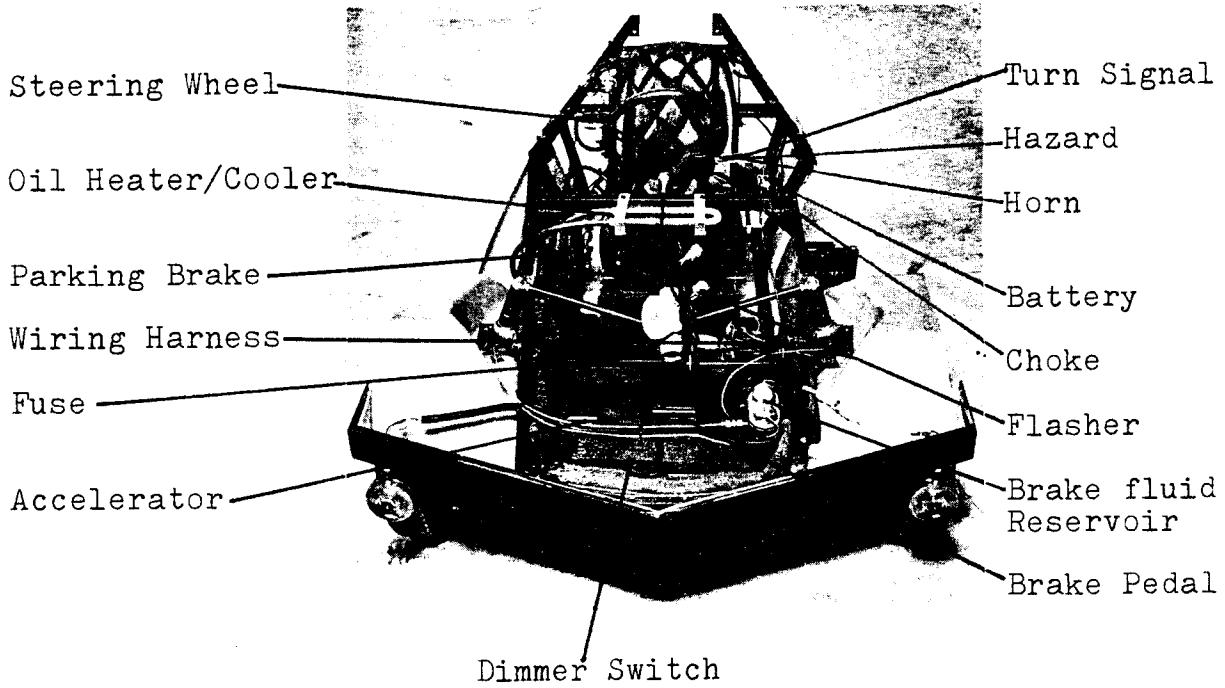
IN THIS MANUAL, STATEMENTS PRECEDED BY THE FOLLOWING ARE OF SPECIAL SIGNIFICANCE:

1. WARNING: means there is the possibility of personal injury to yourself or others.
2. CAUTION: means there is the possibility of damage being done to the vehicle.
3. NOTE: indicates points of particular interest in the maintenance and operation of your vehicle.

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ILLUSTRATIONS



IDENTIFICATION

1. Ignition key
The ignition key has 3 positions. Once the key has been inserted, turning it to the right one position will activate the gauges and provide the operating mode for the vehicle. The second position to the right is nonfunctional, although the power is still on. The third position to the right is the starter engagement. Once the engine has been started, turn the key back to the first position to operate the vehicle.
2. Gauges
Oil temperature; the oil temperature, on an average summer day, will read in the area of 220/240 degrees F. The oil can run as high as 275 without any problems.
Fuel gauge; the fuel tank holds 9.5 gallons. We recommend using regular fuel, although unleaded will work also.
Ammeter; the ammeter indicates the amount of charging current to the battery. With lights and accessories on, the gauge should show a positive charge of 5/10 amps.
3. Turn Signal
To operate the turn signals, simply push the signal lever up for right turns and down for left. The switch is not self canceling and must be manually brought back to the middle position.
4. Horn
To activate the horn, pull the chrome lever toward you.
5. Hazard Lights
To activate the hazard lights, or 4 way flashers, push in the red actuator at the end of the signal lever. To cancel the flashers, push the lever either up or down until the red end clicks back into position.
6. Brake
The brake is operated like that in any other vehicle.
7. Headlight Switch
To turn on the lights, push the red switch marked "lights". This will turn all the lights on, including the lights for the red switches. Push the switch again to turn off the lights.
8. Dimmer Switch
The dimmer switch is on the left side of the front floorboard and operates like that in any other car. The high beam indicator is the red light on the dashboard.
9. Fuse
The fuse is located to the left of the steering box.

10. Parking Brake
The parking brake handle is next to the seat on the right side. In the vertical position, the parking brake is off, and the handle must be pushed to the floor to lock the brake.
11. Windshield Wiper
The windshield wiper is activated by the red switch marked "wiper". To stop the wiper, push the switch as it nears the bottom of its stroke.
12. Speedometer
The speedometer is calibrated in both miles and kilometers per hour. The odometer is calibrated in miles.
13. Brake Fluid Reservoir
The brake fluid reservoir is located next to the left side frame rail, forward of the brake pedal shaft.
14. Accelerator
The accelerator is operated like that in any other vehicle.
15. Oil Pump Switch
The oil pump switch is used to activate the oil pump, which is used for cleaning the oil and heating the vehicle.
16. Choke
The choke is used to provide the proper fuel mixture for starting the engine.
17. Break-in Period
The break in oil is Valvoline 10W-40 or equivalent. Mobil #1 is recommended after the break in period. There is no particular break in driving procedure but avoid driving long distances at speeds higher than 55mph during the first 1000 miles.

PRE-OPERATING INSTRUCTIONS

1. Handling

The Free-Way is a very lightweight, three-wheeled vehicle. As such it has its own set of handling characteristics. If it is driven according to the type of vehicle it is, the Free-Way has excellent stability. Without practice to learn the quick steering response, there could be some problems in daily traffic. The following guidelines will help to become familiar with your vehicle.

2. Steering

The Free-Way has much quicker steering response than an ordinary car. In this vehicle, there is no wasted motion of the steering wheel, no "dead" spot where the wheel will not react. This means that when the steering wheel is turned, there will be a change in the direction of the vehicle. Particular care should be used when negotiating a sharp corner, especially when trying to tighten the radius of the corner while driving through it. The proper method would be to maintain a smooth, fluid arc through the corner, reducing speed if necessary. ABRUPT, severe motions with the steering wheel should be avoided.

3. Braking

The Free-Way has good braking capabilities if used properly. However, since there is no power assist, the feel of the pedal may be different than that of a car. When using firm pressure on the pedal, the greatest amount of braking force will come during the last one fourth of travel. Also, the brakes are best used when the vehicle is going straight so there should be some care exercised to avoid over steering while braking. In a panic stop situation, the vehicle should be steered gently off to the side of the road while applying the brakes.

NOTE: The brakes will become more effective as the shoes and drums become seated with use.

4. Scraping the Windshield

In cold weather situations, some care must be exercised when scraping the windshield. The windshield is Lucite "SAR" and should be scraped with a plastic scraper only. A metal scraper will scratch the surface.

NOTE: To clean the windshield and windows, use a plastic cleaner/polish such as CRL cleaner and polish. This is available from HMV or local shops.

5. Using the Choke

The Free-Way gas model comes equipped with a manual choke that should be pulled out, or on each time the vehicle is started.

If the vehicle has not been running for some time, pull the choke completely out before starting, and as the engine is turning over push it back in one half ($\frac{1}{2}$) way. After driving for some time, push the choke in completely. If the engine has been running and is still warm, pull the choke out, but push it in rapidly as the engine begins cranking.

6. Accelerator

The accelerator is operated like that in any car but since the drive is transmitted through a variable speed clutch, the accelerator must be depressed further to initiate movement. Once under way, there will be no noticeable shift as the vehicle accelerates. The variable speed clutch automatically compensates for differences in speed, load etc. Since this drive is automatic, there is no shifting.

7. Use of the Oil Pump

The oil pump in the Free-Way gas model serves two functions; cleaning the oil through the use of an oil filter..... and heater for the vehicle. Once the red switch marked "oil pump" has been pressed, the engine oil is circulated to a heater core mounted behind the dashboard and also through an oil filter. In warm conditions, we recommend running the oil pump for about the first 5 to 10 minutes of operation daily to filter the oil properly. Running the oil pump continuously is not necessary and will only serve to make the vehicle uncomfortably warm during the warm weather months. In cold weather situations, wait until the oil temperature is 140 degrees and then simply run the oil pump as a heater to keep the vehicle comfortable.

8. Ventilation

The two rear side windows have flip out latches to provide for ventilation. The other two side windows, along with the sunroof (if so equipped) can also be removed for hot weather driving. To remove the side windows, simply press on the window to release it from the rubber molding and then gently pry the window from the vehicle. To reinstall the window, slide the narrow edge as far forward as possible in the molding and then use the tool supplied to pry the molding over the window edge following the molding around the window. The sunroof can be removed by loosening the two knobs at the rear, swing the rear brackets out of the way and slide the window rearward. The procedure is reversed for installation.

9. Handling Dangerous Surfaces

Because the Free-Way has a single rear wheel it is affected by differences in road surfaces like a motorcycle. Any surface that affects the traction of the rear wheel will affect the handling of the vehicle so the alert driver will be aware of both the handling characteristics of the vehicle and the surface the vehicle is on. The following information, therefore, is pertinent to the safe operation of the Free-Way vehicle.

10. Slippery Surfaces

Some slippery surfaces are the following:

- Wet pavement particularly just after it starts to rain and before surface oil washes to the side of the road.
- Gravel roads or places where sand and gravel have collected on paved roads
- Mud, ice and snow

There are a number of things that can be done to operate safely on slippery surfaces.

- Reduce speed as it takes longer to stop on a slippery surface so reduce accordingly. Speeds should be especially reduced for corners. Speed limits are posted for good driving conditions, so caution should be exercised if conditions are questionable.
- Avoid sudden moves as any sudden change in speed or direction can cause a skid or spin on a slippery surface. Turning, braking, accelerating, stopping should be done as gradually as possible when necessary in the course of travel. When on a patch of ice, there should be no changes made at all until the ice has been crossed.
- Avoid the slippery areas and use the best areas of pavement.

It is almost impossible to change direction or to stop on glare ice. If it is impossible to avoid these surfaces then avoid any changes and simply ride the surface out.

11. Uneven Surfaces

Special caution should be taken when encountering uneven surfaces such as bumps, broken pavement, "chuck holes", or railroad tracks. If these surfaces are hit with high enough speeds, they could cause a loss of control. to reduce the impact of these surfaces do the following:

- Avoid hitting the obstacle with the front wheels. It is better if the obstacle cannot be avoided to hit it with the rear wheel.
- Slow down to reduce the initial impact.
- Straighten the vehicle so the obstacle is hit straight on.

12. Grooves and Grating

When driving over rain grooves in a curve, or over metal bridge grating, a vehicle may tend to wander. While this is an uneasy feeling it is not generally dangerous. Simply hold the vehicle on course until the surface has been passed.

13. Adverse Weather Conditions

Adverse weather conditions include snow storms, sleet, heavy slush or high winds. In situations like these, driving the Free-Way is not recommended although it is an all weather vehicle. If you must drive in these conditions proceed at lower speeds.

14. Blowouts or Flats

If there is a blowout of one of the front tires try and steer off to the side of the road with slow, deliberate movements. The steering wheel should be firmly held with both hands to guard against the vehicle wandering. If the rear tire blows, the vehicle may begin to sway to one side as a motorcycle will do, so it will be necessary to counteract this sway and get off to the side of the road.

15. Stuck Accelerator

If the accelerator sticks, turn the ignition switch off and pull over to the side of the road.

16. Chain or Belt Breakage

If either the drive chain or the drive belt breaks, or becomes derailed the vehicle will coast without power until it stops.

17. Pulling Off Road

When leaving the road surface, remember that the surface of the shoulder may be several inches lower than the road surface. It also may be soft or slippery which could affect the control of the vehicle.
WARNING: Driving on the shoulder is HAZARDOUS bring the vehicle to a complete stop before driving back on to the road.

18. Carrying Loads or Passengers

Remember that the Free-Way was designed to carry primarily a single passenger and a small amount of cargo. Because it is a 3 wheeled vehicle, heavy loads carried high could affect the handling and possibly cause a loss of control. When carrying loads, or a passenger, reduce speed on turns and avoid accelerating while going through the turn.

OPERATING INSTRUCTIONS

WARNING: Always buckle your seatbelt. The three point seatbelt is standard and should always be used.

1. Procedure

Adjust the seat to provide for a comfortable sitting position. Adjust the mirrors to provide for ample visual range. Insert the key into the key switch. There are three key positions:

- Power on/gauges functional (operating mode)
- Power on/gauges nonfunctional
- Starter engagement

2. Pull the choke out completely and depress the accelerator about one fourth way to the floor.

3. Turn the key to the right until the starter engages. As the engine turns over, slowly push the choke in about one half way. If the engine is already warm the choke can be pushed in as soon as the engine is running. If it is a cold engine, the choke should be left out for a short time.

4. Release the parking brake by pulling it up to the vertical position.

5. Once the key has been released, turn it back to the first position so the gauges function.

6. Press the accelerator toward the floor, and the vehicle will begin to move. For maximum acceleration, depress the accelerator all the way to the floor. To stop, simply let up on the accelerator and use the brake as you would in any car.

7. To set the parking brake, push the parking brake handle down to the floor.
WARNING: Driving with the parking brake lever in the down position (parking brake "ON") will damage the braking system and is not covered by the warranty.

8. The turn signals are not self canceling. They must be manually brought back to their original position.

NOTE: Any damage to parts because of incorrect use or abuse by the driver/owner will not be covered by the warranty. See the warranty section for more information.

MAINTENANCE

NOTE: We recommend the use of a small scissors jack like the Sears model 28-1271, to lift the vehicle safely. Make sure to block the wheels securely to prevent the vehicle from rolling.

1. Adjusting Front Brakes

Set the parking brake and place the jack under the lower suspension arm and elevate the vehicle until the wheel can spin freely. On opposite sides of the brake backing plate, there are two (2) threaded cams that have 9/16" nuts on them loosen these nuts.

- Spin the wheel and with a 1/4" wrench, turn the cam until the drum begins to rub on the brake linings. Back the cam off slowly until there is no rubbing sound.
- Tighten the cam nuts. Do this for both cams on both wheels.
- Let the vehicle down and test drive

2. Adjusting Parking Brake

CAUTION: Driving with the parking brake lever in the down position will damage the braking system and is not covered by the warranty. Damage to the parking brake assembly either from over tightening or driving with it on IS NOT covered by the warranty and caution should be exercised by anyone who will be driving the vehicle.

The parking brake is adjusted by turning the end of the handle in the released position (up).

- Drive up a slight grade, turn the handle COUNTERCLOCKWISE two (2) turns and apply the parking brake (push down).
- If the vehicle is not firmly braked, turn the handle CLOCKWISE 1/2 turn at a time until it is securely braked.
- Once set, make sure it is firmly braked in the opposite direction. Do not turn the handle any further clockwise than necessary as the parking brake can be damaged with too much force applied.

3. Removal of Chain

To remove the chain, simply locate the master link. Remove the retainer and master link and roll the chain off the sprocket.

4. Removal of Drive Belt

WARNING: The temperature of the muffler can exceed 150 degrees so caution must be taken when working in this area.

Set the parking brake and remove the panel under the engine by unbolting the four (4) 9/16" bolts and sliding the panel clear of the muffler.

- Remove the chain.
- Cut the worn belt and remove.
- Remove the left side jackshaft pillow block bolts and slide the pulley forward towards the engine. The jackshaft pulley will remain in place.

5. Reinstallation of Drive Belt

Work the belt over the engine pulley first, then over the jackshaft pulley. Slide the jackshaft back into place and tighten the jackshaft pillow block bolts.

- Reinstall the chain
- Reinstall the muffler
- Reinstall the under panel by working it over the muffler and bolting it into place.

6. Changing Front Tires

Place the jack under the lower suspension arm and elevate the tire until it begins to lift. Use a screwdriver to pop off the hub cap. Remove the lug nuts, raise the vehicle and remove the tire.

7. Rear Tire Disassembly

NOTE: The following tools will be needed:

- A 2x4 board, 24" long
- A ratchet and sockets 1/2, 3/4 and 13/16"
- A 1/2 inch wrench

Block the front tires, and center the jack under the vehicle so it lays on a line between the rear panel hinges.

- Lay the 2x4 board on the jack and elevate the vehicle until the rear wheel is 2" off the ground.
- Remove the chain
- Disconnect the parking brake cable at the actuating lever.
- Loosen both the 3/4" axle bolts and pull them out until they clear the hub and spacer.
- Holding the tire from both the top and bottom, twist the tire to the right to free the right side spacer from it's swingarm groove. Twist the tire free from the swingarm.
- Remove the lug nuts and the tire will come free.

8. Rear Tire Reassembly

Place the tire on the brake drum and hand tighten the lug nuts making sure that the air stem faces the left side. Hold the tire from the bottom and fit the right side spacer into the groove in the swingarm

- Slide the left side hub into place making sure that the tab fits into the groove properly.
- Tighten the axle bolts until they catch on the hub and spacer
- Replace the chain. Make sure the master link clip faces forward and fits into it's groove properly.
- Tighten the lug nuts completely and let the vehicle down. Connect parking brake cable.

9. Chain Lubrication

Lubrication of the drive chain on a regular basis is essential for the extended life of both the sprockets and the chain. We recommend the use of an aerosol type spray lubricant found in motorcycle shops. Simply roll the vehicle forward slowly and spray the chain as it follows the rear sprocket.

10. Tire Pressures

For maximum efficiency, we recommend the following pressures be used:

- Front 22 psi cold
- Rear 28 psi cold

11. Engine Maintenance

WARNING: The temperature of the muffler and nearby areas may exceed 150 degrees and extreme caution should be used to avoid coming into contact with these areas as serious burns could result.

12. Checking Engine Oil

Position the vehicle so it is level. Wipe the area around the dipstick plug to avoid contaminating the oil with dirt and grease.

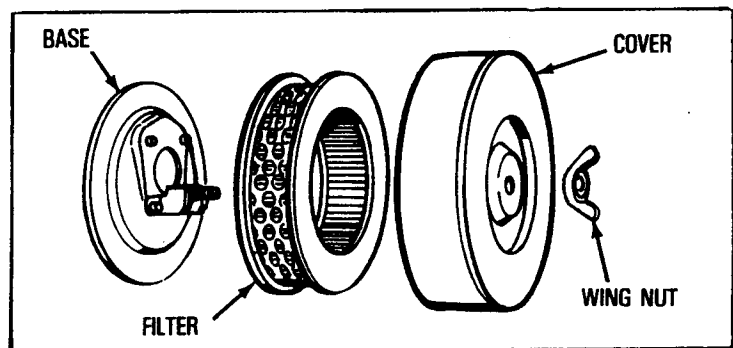
- Unscrew the dipstick plug and check level
- Proper level is between FULL and ADD marks on the dipstick.
- Add oil to the engine through the use of a paper cup or something similar that will fit up into the engine compartment.

13. Servicing Air Cleaner

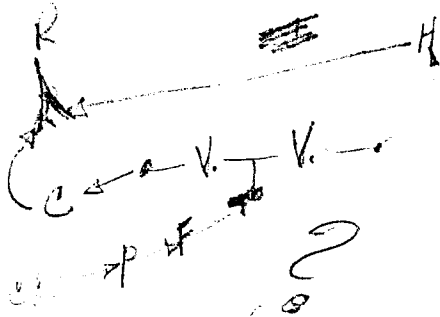
NOTE: Please see diagram

- Remove the wing nut, cover and filter.
- Tap the filter lightly on a flat surface to dislodge any dirt or grease and then wash the filter in a water and detergent solution. Flush the filter with clean water. Let the filter dry and wipe out the inside of the cover and base.
- Replace the filter and cover, making sure that the filter is seated correctly on the base before tightening the wing nut.

CAUTION: Never run the engine without the filter installed.



14. Changing the Oil and Filter



to use 5/16"

from it's

NOTE: The purpose of this procedure is to provide the instruction on how to change the oil in the engine of your Free-Way vehicle after initial 1,000 miles or as required. The tools and supplies you will require are as follows:

- Allen wrench 5/16
- Pliers
- Oil filter strap wrench
- Oil filler hose 5/16 diameter, 18 " long
- New oil filter - recommend Fram PH-43 or equivalent
- Three (3) quarts Mobil #1 motor oil.... other motor oils are acceptable
- Clean bucket

NOTE: The steps in this procedure must be given care and attention to detail. IT IS NOT NECESSARY TO REMOVE THE ENGINE PAN TO CHANGE THE OIL.

** Drain the oil utilizing the 5/16 Allen wrench remove the engine oil plug located on the bottom side of the engine.

NOTE: The oil drained from the vehicle should be collected and disposed of in accordance with local ordinances.

- When the oil is draining from the engine block, turn on the vehicle's oil pump to purge the oil lines, filter, and oil cooler of oil. This sequence should take no more than two (2) minutes.
- Replace engine oil plug.
- Using the oil filter strap wrench, loosen and remove the oil filter located on the right side of the engine compartment.

** Prepare for oil filling

- Utilizing the pliers, loosen the hose clamp on the engine side of the oil line running from the engine crank case to the oil cooler. Retain hose splice in the line running to the cooler.

NOTE: The oil line running from the oil filter to the oil cooler does not have a hose splice.

- Elevate the section of the hose connected to the engine crank case a few inches to a position where the hose end is higher than the engine oil sump and secure with a clamp, wire tie or other means.

NOTE: This step is necessary so that oil does not drain from the engine when refilling.

- Temporarily attach the 18" length of 5/16 diameter oil filler hose to the hose splice of the section of hose running to the oil cooler and place the free end into a clean bucket
- Remove the new oil filter from it's box and pour 1/2 qt. of oil into the filter. The oil level in the filter will be to the threads of fitting.

NOTE: Filling prior to installation is required

- Install the new oil filter pre-filled with 1/2 qt. of oil. Apply film of clean oil to filter gasket. Screw on new filter until gasket reaches base. Tighten three quarters of a turn (by hand only)
- Pour the remainder of the oil into the clean bucket. Do not over fill. The bucket should contain (2) qts. of oil.

NOTE: The free end of the oil filler hose temporarily attached to the hose splice should be at the bottom of the bucket.

**

Oil suction

- Turn on oil pump. The oil will be sucked into the system by the oil pump. Watch to make sure the oil pump is shut down when all oil has been sucked in. Do not let the pump suck air into the system.
- Remove temporary oil filler hose and re-connect to hose section attached to the engine crank case. Secure clamp.
- As a final check, run oil filter pump. Wait and check oil level gauge.

15. Servicing the Spark Plug

Remove the access panel and clean the area around the spark plug so dirt and grease cannot fall into the cylinder once the spark plug is removed.

- Remove spark plug
- Clean the spark plug by scraping or wire brushing it and then rinsing it with a non-flammable solvent.
- Re-gap the electrode to .030" if replacing the plug, use a Champion RL85 for both the 340E and 450E engines.
- Tighten the plug firmly and reconnect the spark plug lead.

16. Alternator and Battery

Twenty (20) amp alternator..... this system is fully automatic and requires no adjustment. The battery voltage is regulated to prevent overcharge.

17. Battery Service

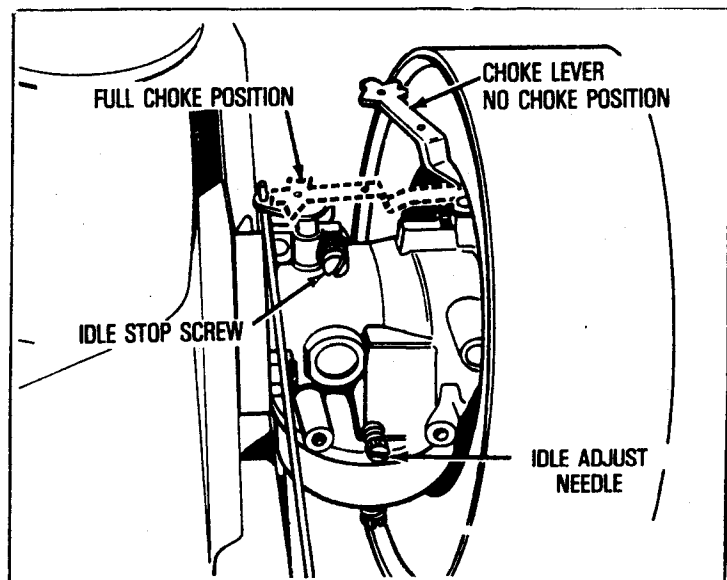
The battery is located behind the seat under the carpet by the left side frame rail. The carpeting is attached with Velcro and can be pulled out.

- The electrolyte level in the battery should be up to the bottom of the filler hole. If the levels are down, simply add drinking water.
- If removing the battery, make sure to reconnect the battery connections properly. The ground cable should go to the negative post.
- Never expose the engine magneto to battery power. If the battery cable or a live wire contacts the magneto ground wire, the engine ignition system may be damaged.

18. Carburetor Adjustment

WARNING: The temperature of the muffler and the surrounding area may exceed 150 degrees. Use extreme caution when working in this area. The factory setting for the carburetor should be adequate for most conditions. Avoid unnecessary adjustments, but if the carburetor must be adjusted, use the following procedure:

- Turn the IDLE ADJUST NEEDLE until it is closed, noting the number of turns it takes. Close finger tight only.
- Open the IDLE ADJUST NEEDLE by turning it counterclockwise:
 - 340E 1-1/4 turns.
 - 450E 1-3/8 turns
- Start the engine and let warm up. With engine running at idle speed, adjust the IDLE STOP SCREW to obtain an idle speed of 1600 to 1800 rpm. If necessary readjust IDLE ADJUST NEEDLE by turning it either way until the engine runs smoothly.



19. General Maintenance Schedule

The Free-Way has been engineered to be relatively service free, requiring only a few simple maintenance procedures done on the following schedule:

- Weekly, or every 100 miles; lubricate the chain.
- Every 500 miles check the oil.
- Every 5,000 miles, service the air cleaner and check the tire pressure
- Every 10,000 miles, change the engine oil and filter, check the brake fluid, adjust the front brakes and lub the jackshaft pillow blocks.

LIMITED WARRANTY

For a period of 90 days from the date of original sale, H-M Vehicles, Inc. warrants its products to the original purchaser/consumer to be free from defects in materials and workmanship, subject to the following terms and conditions:

Without charge to the consumer, H-M Vehicles, Inc., at its discretion, will repair or replace products found to be defective in materials or workmanship within the period set forth above provided that;

- a. the product has not been subjected to abuse, neglect accident, improper application or servicing or been used in violation of instructions furnished by HMV.
- b. the serial number has not been removed, defaced, or otherwise changed.
- c. examination discloses, in the judgement of HMV, a defect in materials or workmanship which developed under normal installation, use and service.

H-M Vehicles, Inc. does not assume the costs of removal and/or installation of the product or any other incidental costs which may arise as the result of any defect in materials or workmanship.

THIS WARRANTY IS IN LIEU OF ALL OTHER EXPRESS WARRANTIES, ANY WARRANTY IMPLIED BY LAW, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS, IS IN EFFECT ONLY FOR THE DURATION OF THE EXPRESS WARRANTIES SET FORTH IN THE FIRST PARAGRAPH ABOVE. NO REPRESENTATIVE OR PERSON IS AUTHORIZED TO GIVE ANY OTHER WARRANTY OR TO ASSUME FOR H-M VEHICLES, INC. ANY OTHER LIABILITY IN CONNECTION WITH THE SALE OF ITS PRODUCTS. H-M VEHICLES, INC. WILL NOT BE LIABLE FOR ANY OTHER CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OR INSTALLATION OF ITS PRODUCTS

This warranty has been drafted to comply with the new federal law applicable to products manufactured after July 4, 1975.

ENGINE WARRANTY

The gas engine carries a manufacturers limited warranty of one (1) year. Warranty service can be arranged by contacting a Tecumseh Authorized Service Outlet.

5 YEAR GUARANTEE AGAINST RUST

H-M Vehicles, Inc. guarantees this vehicle for a period of five (5) years to be free from any penetrating rust. On no portion of this vehicle will it be possible to inject a pencil through a rusted spot. H-M Vehicles, Inc. will repair all penetrated rust areas within the first five (5) years.

100 MILES PER GALLON GUARANTEE

On all vehicles supplied with the 340E engine, it will be possible to attain 100 mpg at a steady speed of 40 mph. The vehicle must be run per specification for this test.

ENGINE WARRANTY

The engine in the Free-Way gas models is under warranty for a period of one (1) year, as per arrangement with the Tecumseh Products Company. For engine adjustments, repairs or warranty service that this manual does not cover, contact the nearest Tecumseh Service Outlet. He is listed in the yellow pages under; "Engines, Gasoline".

TECUMSEH PRODUCTS COMPANY'S LIMITED WARRANTY FOR NEW ENGINES

A. Products Warranted

Tecumseh Products Company ("Tecumseh"), subject to the limitations contained below, will, at its option, repair or replace, without charge for parts or labor only, any part or parts of a new Tecumseh engine, EXCEPT any engines used to power two-wheeled riding type vehicles, chain saws and/or any vehicle used in competitive racing or on commercial or rental tracks, which is found upon examination by any Tecumseh authorized service outlet or by Tecumseh's factory in Grafton, Wisconsin to be DEFECTIVE IN MATERIAL AND/OR WORKMANSHIP if received by Tecumseh or a Tecumseh authorized service outlet for such examination within ONE YEAR from the date of sale to the original consumer purchaser. New Tecumseh engines used to power two-wheeled riding type vehicles (including, by way of example, but not limited to, mini-bikes, trail bikes and scooters) are warranted in the same manner and to the same extent EXCEPT such engines are warranted for NINETY (90) DAYS ONLY, and must be received by Tecumseh or a Tecumseh authorized service outlet for such examination within 90 days from the date of sale to the original consumer purchaser. New Tecumseh engines used to power any chain saw are warranted in the same manner and to the same extent EXCEPT such engines are warranted for THIRTY (30) DAYS ONLY, and must be received by Tecumseh or a Tecumseh authorized service outlet for such examination within 30 days from the date of sale to the original consumer purchaser.

B. Products And Items Not Warranted

1. Products Not Warranted By Tecumseh

Tecumseh does not warrant any Tecumseh engine used to power any vehicle used in competitive racing and/or used on commercial or rental tracks. Products or parts not bearing the name "Tecumseh" or the Tecumseh trademark, and used parts of any make, including Tecumseh, are not warranted by Tecumseh.

2. Alterations or Modifications of Tecumseh Engines

All obligations under this warranty shall be terminated if the new Tecumseh engine is altered or modified in any way.

3. Accidents, Normal Maintenance, Failure To Follow Tecumseh's Instruction Manual

This warranty covers only parts of a new Tecumseh engine which are found upon examination to be defective in material or workmanship as delivered to the original consumer purchaser. This warranty does not cover defects caused by depreciation or damage caused by normal wear, accidents, improper maintenance, improper use or abuse of the product, failure to follow the instructions contained in an Instruction Manual for the operation of the engine and parts. The cost of normal maintenance and replacement of service items which are not defective, shall be paid for by the original consumer purchaser.

C. Securing Warranty Service

Warranty service can be arranged for by contacting either a Tecumseh Authorized service outlet [which includes a Tecumseh Registered Service Dealer; a Tecumseh Authorized Service Distributor; and a Tecumseh Central Warehouse Distributor] or by contacting Tecumseh, c/o Director of Servicing, Lauson Power Products Parts Depot, 900 North Street, Grafton, Wisconsin 53024. Warranty service can only be performed by a Tecumseh authorized service outlet or by Tecumseh at its factory in Grafton, Wisconsin. At the time of requesting warranty service, evidence must be presented of the date of sale to the original consumer purchaser. The purchaser shall pay any charges for making service calls and/or for transporting the product to and from the place where the inspection and/or warranty work is performed. The purchaser shall be responsible for any damage or loss incurred in connection with the transportation of the engine and/or of part or parts of the engine submitted for inspection and/or warranty work.

D. No Additional Warranties Or Representations

The foregoing EXPRESSED WARRANTY IS IN LIEU OF ALL OTHER EXPRESS WARRANTIES. Neither Tecumseh nor any of its affiliates makes any warranties, representations or promises, written or verbal, as to the quality of the Tecumseh engine or its part or parts other than those set forth herein.

ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, TO THE EXTENT EITHER APPLIES TO PART OR PARTS OF A TECUMSEH ENGINE SHALL BE LIMITED IN DURATION TO THE PERIODS OF THE EXPRESSED WARRANTIES AS DEFINED IN PARAGRAPH A OF THIS WARRANTY. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply.

E. Damages

IN NO EVENT WILL TECUMSEH BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES AND/OR EXPENSES. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation may not apply to you. This warranty gives you specific legal rights and you may have other legal rights which vary from state to state.

F. No Dealer Warranty

Tecumseh neither assumes nor authorizes any other person, natural or corporate, to assume for Tecumseh any other obligation or liability in connection with or with respect to any part or parts of a Tecumseh engine. The seller or dealer of part or parts of a Tecumseh engine has no authority to make any representations or promises on behalf of Tecumseh or to modify the terms or limitations of Tecumseh's warranty in any way. The seller or dealer makes no warranty of his own on any item warranted by Tecumseh and makes no warranty on other items unless such seller or dealer delivers to the purchaser a separate written warranty document in which the seller or the dealer individually and specifically, on his own behalf, warrants the item.



TECUMSEH PRODUCTS COMPANY

ENGINE DIVISIONS

900 NORTH STREET

GRAFTON, WISCONSIN, 53024, U.S.A.



FREE-WAY GAS MODEL SPECIFICATIONS

Length 115 inches
Width 53 inches
Height 51.5 inches
Wheelbase 80 inches
Road Clearance 7.5 inches
Curb Weight 625 pounds
Gross Vehicle Weight 1100 pounds
Frontal Area 9.5 square feet
Drag Coefficient .35

Battery 12 volt DC
Transmission Continuously variable, final drive 12.5-4

Body/Frame Reinforced fiberglass shell over a steel tube frame

Brakes 3 Bendix drum, 7 inch diameter front and rear mechanical rear parking brake

Headlight ~~H6064~~ (6052 OR H6054)
Taillight/Signal 1157
Sidelight 57
Fuse 20 amp
Brake Fluid DOT 3
Rims 4 by 12
Tires Michelin XZX 145 SR 12

Engine Single cylinder, overhead valve, air cooled
4 cycle with solid state ignition

Displacement - 340E 21.09 cu. in./ 345.68cc
Displacement - 450E 27.66 cu. in./ 453.25cc

Bore - 340E 3 1/8" (79.38mm)
Bore - 450E 3 1/2" (88.90mm)

Stroke - 340E 2 3/4" (69.88mm)
Stroke - 450E 2 7/8" (73.02mm)

Compression Ratio - 340E 8.65:1
Compression Ratio - 450E 8.70:1

Gasoline Regular gasoline - use unleaded as a substitute.

Oil Mobil 1
Oil Filter Fram PH 43 - AC-PF20, LEE LF-16, POR-PER 81
Oil Capacity 2 1/2 ~~3~~ quarts PER 8100 HOT 81

Cart adj. main part # 631764 \$4.40

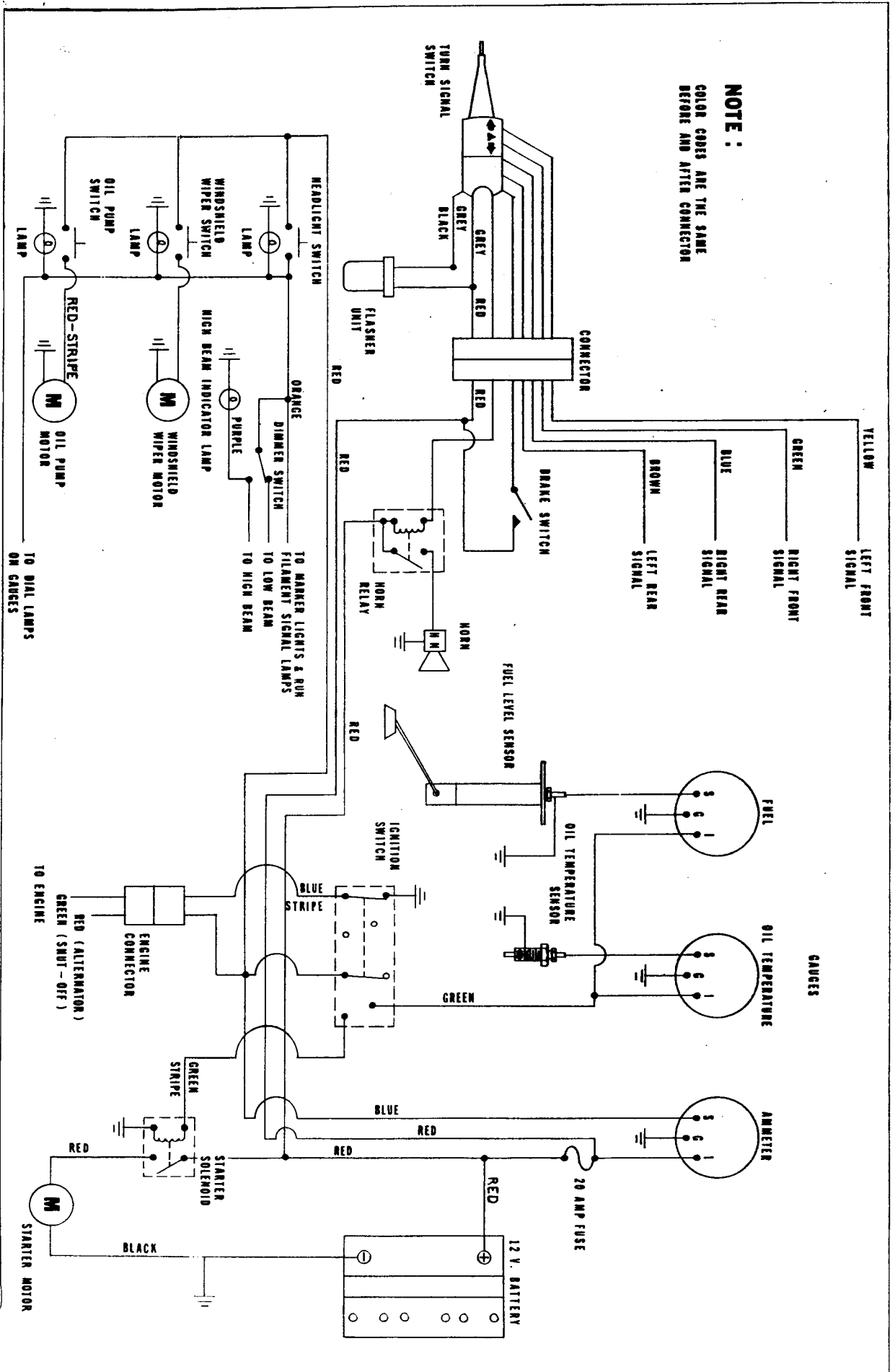
DRIVE BELT # GATES # 6028 (1 3/16" x 37")

SPARK PLUG RL 85

COMET DRIVEN # 49D

Front wheels should Toe Out 3/8" - 1/2"

main jet - .073



NOTE :
 COLOR CODES ARE THE SAME
 BEFORE AND AFTER CONNECTION

YELLOW LEFT FRONT SIGNAL

GREEN RIGHT FRONT SIGNAL

BLUE RIGHT REAR SIGNAL

BROWN LEFT REAR SIGNAL

GAUGES

FUEL

OIL TEMPERATURE

AMMETER

20 AMP FUSE

12 V. BATTERY

TURN SIGNAL SWITCH

FLASHER UNIT

HORN RELAY

HORN

FUEL LEVEL SENSOR

IGNITION SWITCH

BLUE STRIPE

STARTER SOLENOID

BLACK

STARTER MOTOR

HEADLIGHT SWITCH

ORANGE DIMMER SWITCH

PURPLE HIGH BEAM INDICATOR LAMP

TO MARKER LIGHTS & RUN FILAMENT SIGNAL LAMPS

TO LOW BEAM

TO HIGH BEAM

WINDSHIELD WIPER SWITCH

WINDSHIELD WIPER MOTOR

LAMP

LAMP

LAMP

OIL PUMP SWITCH

OIL PUMP MOTOR

RED-STRIPE

TO DIAL LAMPS ON GAUGES

RED (ALTERNATOR) GREEN (SWT-OFF)

ENGINE CONNECTOR

GREEN STRIPE

RED

RED

RED

RED