

720-1511

catalog dept.

TERRAIN CYCLE

MONTGOMERY
WARD

owner's guide and PARTS LIST

TERRAIN CYCLE

MODEL NO.

ZCQ-13995A

Form No. 61M-1888*

What I Want is included

Page 10



GENERAL INFORMATION

This owner's guide has been prepared to provide the information needed to assemble, operate and maintain your Terrain Cycle. Read this owner's guide and the engine manual carefully. Be sure you know what the controls are and how they operate. The care your Terrain Cycle requires is small, but important. Keep it clean and well lubricated. With proper care and maintenance, as explained in this manual, you will obtain long and efficient service.

Information regarding the operation, repairs and maintenance of the engine is not included in this manual. A separate engine instruction manual is included with your Terrain Cycle and should be consulted for all information concerning engine adjustments, operation, maintenance and repairs. For all information concerning engine service and maintenance follow instructions in the engine manual.

THINK SAFETY BEFORE YOU USE YOUR TERRAIN CYCLE

Your Terrain Cycle was built to the highest standards in the industry. However, a Terrain Cycle is only as safe as the operator. As with any type of power equipment, carelessness or error on the part of the operator can result in injury. Please read and follow these instructions on safe operation and be certain anyone using this Terrain Cycle is familiar with them.

- Improper use of the Terrain Cycle can result in damage. Give complete and undivided attention to your riding.
- Know the controls and how they operate.
- Know how to stop the cycle and engine instantly.
- Do not allow anyone to operate cycle without proper instruction and supervision.
- Keep cycle in good operating condition and all guards in place.
- Stop engine whenever you get off the cycle.
- Exercise caution when riding in rough areas.
- Do not attempt to service or adjust while the engine is running.
- Make sure throttle control is free (not sticking open) before starting.
- Store gasoline in a safe container. Store the container in a cool, dry place.
- Fill gas tank outdoors. Avoid spilling gasoline. Don't fill tank while engine is running or while you are smoking.
- Open doors if engine is run in garage. Exhaust gases are dangerous.
- Operate cycle without any passengers.

WARNING: This Terrain Cycle has not been manufactured for racing or for use on public streets, roads, highways and sidewalks and cannot be licensed for such use. Do not operate on such streets, roads, highways and sidewalks.

- Attach the seat bottom and seat back to the frame with the $\frac{1}{4}$ - 20 x $1\frac{1}{4}$ " hex cap screws, each time using a $\frac{1}{4}$ " split lock washer and a $\frac{1}{4}$ " SAE washer.

Note: The larger of the two seat cushions is the back.

- Attach taillight lead wire to alternator terminal as shown in Fig. 13.
- Attach taillight ground wire to engine gas tank mounting bolt. (Fig. 6)
- Attach roll cage rear support tube to the roll cage main frame by slipping the open end over the stub tube aligning the holes and inserting the $\frac{1}{4}$ - 20 x $1\frac{1}{4}$ " long cap screw. Secure with the $\frac{1}{4}$ - 20 hex lock nut. (Fig. 7).



Figure 7

- Place roll cage on rear frame of cycle as shown (Fig. 7a) and secure on each side with (1) 5/16 - 18 by $\frac{3}{8}$ " long hex head cap screw and (1) 5/16 - 18 hex lock nut. Tighten securely.
- Secure rear support tube to trailer cart hitch with (1) $\frac{1}{2}$ - 13 x $2\frac{1}{2}$ " long hex head cap screw, (1) $\frac{1}{2}$ - 13 hex nylon insert nut and (2) $\frac{1}{2}$ " SAE washers. Tighten securely. (See Fig. 7b.)

OPERATION OF CONTROLS

- Brake controls:** This control is located on each handle bar and is operated by squeezing toward the handle bar. Squeezing engages the brake and releasing disengages brake. To stop cycle, squeeze

both left and right controls simultaneously. Two brake controls are provided to enhance traction and steering capabilities, squeeze right brake lever when turning handle bars to right and left brake lever when turning handle bars left. To increase traction, apply brake to wheel that is spinning freely. This will transfer the power to the opposite wheel.

- Throttle control:** This control is located on the right handle bar and is operated by twisting toward the operator. Twisting toward the operator increases the speed of the engine and causes the clutch to engage resulting in forward motion. Twisting away from the operator reduces engine speed and forward motion. This control when released, automatically returns to the idle position.
- Kill switch:** This control is a positive "ON" or "OFF" toggle switch and is located on the plate between the handle bars. This switch must be in the "ON" position to start the engine. To stop the engine, pull switch down to "OFF."
- Choke control:** This control is located on the engine on the carburetor. Turn choke ahead to choke engine for starting. Push choke back when engine has started. (See Engine Manual.)

PRE-STARTING INSTRUCTIONS

CAUTION

Follow these steps thoroughly before starting the engine.

- Check to see that the throttle control is in the idle position (rotated away from operator) and that the engine throttle linkage is in the full idle position. (See Fig. 4.)
- Test both brakes by applying brakes and pulling unit forward. Wheels should not rotate when brakes are applied. If wheels rotate, adjust brake per instructions. (See Page 9.)
- Fill fuel tank completely with clean, fresh, leaded or non-leaded "Regular" grade gasoline. Do NOT mix with oil. Wipe away any gasoline which may be spilled.
- Fill crankcase with clean, fresh oil, marked "MS", "SC" or "SD" only. Do NOT use oil marked "MM" or "ML". Make sure Terrain Cycle is sitting level and fill to top of filler hole. Fill slowly to avoid trapping air. If engine is equipped with dipstick, fill to full mark only.

5. Check to see that spark plug wire is secure.
6. Check tire pressure. Tires are normally over inflated for shipping. Recommended tire pressure is 2-10 psi. The tire pressure within these limits is your choice, and with experience, you will choose tire pressure in relation to the terrain you are operating the Terrain Cycle in.

NOTE: If Terrain Cycle motion is stopped, due to terrain, do not continue to hold throttle open. This will result in belt slippage and could cause failure.

TRIAL RUN

Now that you have serviced the engine and know the operation and function of the controls, you are ready to take your Terrain Cycle on a trial run. Remember, exercise extreme caution until you become familiar with your Terrain Cycle.

TO START ENGINE

1. Check to make sure throttle is in idle position.

2. Place front wheel against immovable object before starting.
3. Push ignition switch forward to "ON."
4. Push choke control forward to choke engine. Don't choke if restarting a warm engine.
5. Stand directly behind engine and with left foot on rear frame, pull starter cord rapidly until the engine starts.
6. When engine starts, pull choke control in gradually back.

TO STOP ENGINE

1. Pull ignition switch back to "OFF."

NOTE: All bolts, nuts and adjustments should be checked and, if necessary, tightened during the first two hours of use. Periodic checks should be made thereafter. Chain stretch is normal and will require adjustment within the first hour and periodically thereafter.

Maintenance and Lubrication

The Torque Converter is pre-lubricated at the factory and should not require additional lubrication for at least forty hours. At this time it is advisable to disassemble the drive unit, check it for damage and worn parts, and reassemble as per instructions. (Fig. 8)
Note: Keep the Torque Converter free and clean of sand, gravel, etc.

DRIVE UNIT

To Disassemble, lubricate, and reassemble:

1. Remove the retaining bolt in the crankshaft. (No. 1)
2. Slip the assembly off the crankshaft (No's 2 through 5) (Fig. 8).
3. Separate parts numbered 3-4-5-6-7 and check thoroughly for damage and excessive wear.

4. Clean all parts in solvent to remove dirt and foreign materials. Use fuel oil or kerosene—DO NOT USE SOLVENTS WITH LOW FLASH POINTS SUCH AS GASOLINE.
5. Lubricate the drive unit as follows: Using only a small amount of wheel bearing grease, apply over the splines on the drum and spline sleeve (#3). Apply a small amount to the angular cam faces of the drive weights (No. 5).
6. Reassemble according to Fig. 8.

DRIVEN UNIT

NO LUBRICATION IS NECESSARY IN MOST CASES. However, in the case of galling between the movable flange and the fixed flange, it is advisable to add a drop or two of light machine oil.

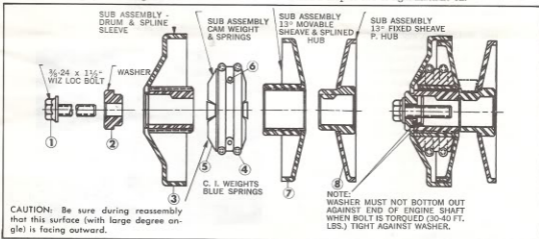


Figure 8

1. All bearings are pre-lubricated and do **NOT** require lubrication.
2. The chain has been lubricated at the factory. However, oil chain thoroughly when it appears to be excessively dirty or dry. Apply oil at large sprocket and push unit forward to rotate chain.
3. Check oil level of engine every 5 hours of operation. Clean away any dirt from around oil plug before removing. Change oil after first 2 hours

of operation and every 25 hours thereafter. (See Engine Manual).

4. Clean air cleaner element every 10 hours under normal conditions or every few hours under extremely dusty conditions. (See Engine Manual).
5. Make visual inspection of Terrain Cycle every day for loose or damaged parts. Correct as required.
6. Apply a light coat of oil to axles and jackshaft to prevent rusting.

Adjustment and Servicing

TORQUE CONVERTER BELT ADJUSTMENT

It is very important that the Torque Converter system be kept in alignment at all times to assure maximum life of your belt and proper operating efficiency. It is very important that the "Belt Centers" be held within the tolerances specified at all times to assure maximum belt life and proper operating efficiency. Tight belts can cause the Torque Converter to engage prematurely. If the belt is too loose, the Torque Converter will not engage within the range of engine efficiency desired. The system will not be able to reach its maximum speed in many cases.

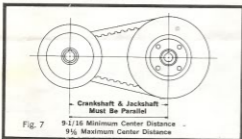


Figure 9

For best performance and minimum wear on belt, the center distance between the driver (on crankshaft) and the driven (on the jackshaft) members must be between 9-1/16 minimum and 9-1/8 maximum.

NOTE: Make sure that crankshaft and jackshaft are parallel.

CHAIN ADJUSTMENT

Improper adjustment of chain will result in excessive wear. A properly adjusted chain will have approximately 3/8" sag midpoint between sprockets.

To adjust chain:

1. Loosen, **DO NOT** remove, (4) screws mounting jackshaft plate to engine mounting plate. (See Fig. 10)
2. Loosen locking nut several turns and turn adjusting nut until chain is adjusted properly. (See Fig. 11)
3. Retighten locking nut and (4) screws.

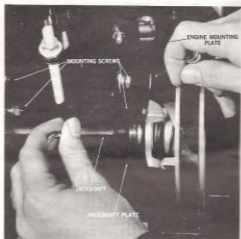


Figure 10

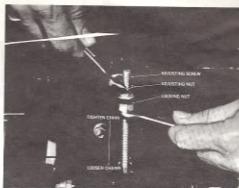


Figure 11

BRAKE ADJUSTMENT

Although the brakes have been adjusted at the factory, they will require readjustment after considerable use. To adjust brakes:

1. Block up rear of unit to allow rear wheels to turn freely.
2. Loosen, **DO NOT** remove, locking nut several turns. (See Fig. 12)

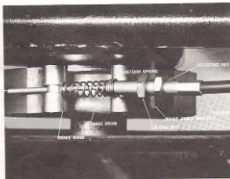


Figure 12

3. Hold conduit to prevent from twisting and turn adjusting nut to take up slack in cable. Keep turning adjustment nut until there is a noticeable drag on the wheel when rotated by hand. Then, back off adjustment nut just enough to eliminate drag.
4. Retighten locking nut and remove blocks.
Note: Make sure conduit is fully seated in slot of brake cable bracket when tightening.

FRONT WHEEL REMOVAL

1. Remove the 5/8 - 11 nylon toplock nut from front axle. (Fig. 1)
2. Remove wheel by sliding axle out from within the hub. Take note of the order that the washers are positioned for reassembly.
3. Replace wheel by reversing the above steps.

REAR WHEEL REMOVAL

1. Block up rear of unit to clear rear wheels from the ground.
2. Remove (4) nuts with standard lug wrench and remove wheel.
3. To mount wheel, reverse above procedure.
Note: The wheels are mounted with tubeless type tires and should be taken to a local filling station to repair leaks or punctures.

BELT REMOVAL

1. Remove belt guard.
2. Block up rear of cycle so rear wheels turn freely.
3. Work belt off of large (jackshaft) pulley by rotating jackshaft pulley and remove from small (engine) pulley.
4. To install new belt, reverse the above procedure.
5. Replace belt guard.

ELECTRICAL SYSTEM

The electrical system on your Terrain Cycle is balanced. The headlight brightness varies with different engine R.P.M.'s. If headlight burns out, replace immediately. Continue running will cause the tail-light bulbs to burn out. This is a normal reaction on this type of engine.

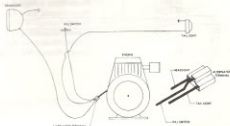


Figure 13

In case of an electrical system failure:

1. Check for broken wires or poor connections.
2. Check for a short or bare spots in the wire.
3. If lights don't work — check wires, connections and bulbs. Lights will not work if a ground between bike frame and light housing isn't established with mounting bolt.

STORAGE

If your Terrain Cycle is not going to be used for a prolonged period, it should be serviced and stored in a dry place.

1. Check Engine Manual for storage instructions.
2. Drain gas from tank.
3. Run engine until remaining gas is used up and engine stops.
4. Cover exposed (unpainted or unplated) metal surfaces with a thin coat of oil.
5. Before using the Terrain Cycle again, check for loose or damaged parts and correct as required. Follow "Pre-starting" and "Operation of Controls" instructions and review Engine Manual before proceeding.

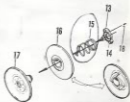
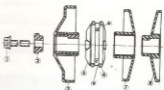
MONTGOMERY WARD TERRAIN CYCLE
TORQUE CONVERTER PARTS AND PARTS LIST

ZCQ-13995A

DRIVER ASSEMBLY COMPLETE: PART NO. D-1023
 DRIVEN ASSEMBLY COMPLETE: PART NO. D-1042

Order by Part Number

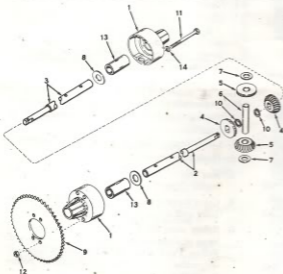
| Item No. | Part No. | Quantity | Description |
|----------|----------|----------|---|
| 1 | H-1146 | 1 | Cap Screw $\frac{3}{8}$ -.24 x $1\frac{1}{2}$ W1Z Lock |
| 2 | H-1147 | 1 | Washer - Spacer |
| 3 | D-1050 | 1 | Drum & Spline Sleeve |
| 4 | G-1007 | 2 | Spring—Blue Engagement |
| 5 | D-1013 | 2 | Shoe — Cast Iron |
| 6 | H-1086 | 2 | Pin—Roll |
| 7 | D-1051 | 1 | Movable Sheave—Splined Hub 13° |
| 8 | D-1054 | 1 | Stationary Sheave w/Hub, (13°) |
| 9 | D-1012 | 1 | Shoe Driver Assy (Items 4, 5, 6) |
| 10 | B-1045 | 1 | Belt #883 - 105 (not shown above) |
| 13 | D-1017 | 1 | Block, Cam w/Nylon Inserts |
| 14 | D-1018 | 3 | Nylon Inserts, Cam Face |
| 15 | G-1008 | 1 | Spring, Helical R.H. |
| 16 | D-1043 | 1 | Sheave, Movable |
| 17 | D-1044 | 1 | Sheave, Stationary, $\frac{1}{4}$ Hub, $\frac{3}{8}$ " Bore |
| 18 | H-1148 | 1 | Screw—Socket Hd. #10-32 x $\frac{1}{4}$ " |



MONTGOMERY WARD TERRAIN CYCLE
DIFFERENTIAL PARTS AND PARTS LIST

ZCQ-13995A

DIFFERENTIAL ASSEMBLY COMPLETE
w/SPROCKET D-1045



| Ref. No. | Part Number | Part Name |
|----------|-------------|--|
| 1 | D-1041 | Housing, Differential carrier (Incl. No. 13) |
| 2 | Q-1123 | Axle (14 31/32" Long) Short |
| 3 | Q-1124 | Axle (18 27/32" Long) Long |
| 4 | B-1040 | Gear, Bevel |
| 5 | B-1041 | Gear, Pinion |
| 6 | O-1005 | Pin, Drive |
| 7 | H-1136 | Washer, Thrust |
| 8 | H-1137 | Washer |
| 9 | B-1042 | Sprocket (54 Tooth) |
| 10 | H-1138 | Ring, Snap |
| 11 | H-1139 | Screw, Hex. hd., 5/16-18 x 3/4" |
| 12 | H-1140 | Nut, Lock 5/16"-18 |
| 13 | P-1020 | Bushing |
| 14 | H-1141 | Washer, 5/16" Flat |

Replacement housings will not be tapped. Simply re-assemble as before and secure the assembly with the 5/16 - 18 lock nut. Always put the 5/16 - 18 lock nut against the sprocket on the differential.

MONTGOMERY WARD TERRAIN CYCLE

ZCQ-13995A

TERRAIN CYCLE FRONT END, ROLL CAGE, AND LIGHTING SYSTEM PARTS LIST

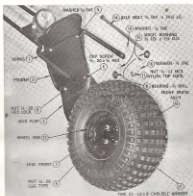


Fig. 14

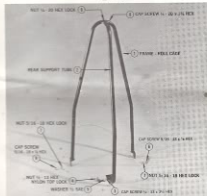


Fig. 15



Fig. 16

FRONT FORK WITH COMPONENT PARTS

| Item No. | Part No. | Description | Qty. |
|----------|----------|--|------|
| 1 | M-1028 | Fork W/A—for ATV tire | 1 |
| 2 | J-1019 | Fender—Front, ATV | 1 |
| 3 | J-1020 | Mudflap—ATV Tire | 1 |
| 4 | H-1047 | Cap Screw— $\frac{1}{4}$ - 20 x $\frac{5}{8}$ hex | 4 |
| 5 | H-1003 | Washer— $\frac{1}{4}$ SAE | 8 |
| 6 | H-1005 | Nut— $\frac{1}{4}$ - 20 hex lock | 4 |
| 7 | Q-1109 | Hub—front axle | 1 |
| 8 | P-1005 | Bearing— $\frac{5}{8}$ ball w/snap ring | 2 |
| 9 | H-1029 | Nut— $\frac{1}{2}$ - 20 lug type | 4 |
| 10 | T-1023 | Wheel & Tire Ass'y—knobby | 1 |
| 11 | T-1025 | Tire (only)—21-12x8 knobby | 1 |
| 12 | T-1024 | Wheel (only)—7" wide | 1 |
| 13 | N-1002 | Valve stem | 1 |
| 14 | Q-1107 | Front Axle Bolt— $\frac{5}{8}$ dia x $14\frac{3}{4}$ | 1 |
| 15 | H-1103 | Washer— $\frac{3}{8}$ ID x $1\frac{1}{4}$ OD | 2 |
| 16 | H-1010 | Washer— $\frac{3}{8}$ SAE | 2 |
| 17 | H-1120 | Nut— $\frac{1}{2}$ - 11 nylon top lock | 1 |

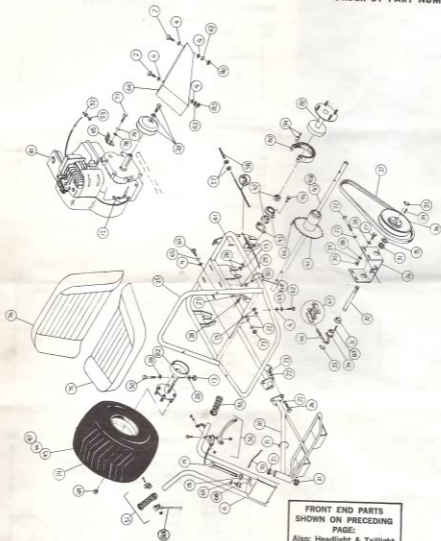
ROLL CAGE PARTS

| Item No. | Part No. | Description | Qty. |
|----------|----------|--|------|
| 1 | M-1030 | Frame—roll cage | 1 |
| 2 | I-1048 | Tube—rear support | 1 |
| 3 | H-1104 | Cap Screw— $\frac{1}{2}$ - 13 x $2\frac{1}{2}$ hex | 1 |
| 4 | H-1105 | Nut— $\frac{1}{2}$ - 13 nylon top lock | 1 |
| 5 | H-1067 | Washer— $\frac{1}{2}$ SAE | 2 |
| 6 | H-1056 | Cap Screw— $\frac{5}{16}$ - 18 x $\frac{7}{8}$ Hex | 2 |
| 7 | H-1008 | Nut— $\frac{5}{16}$ - 18 hex lock | 2 |
| 8 | H-1050 | Cap Screw— $\frac{1}{4}$ - 20 x $1\frac{1}{2}$ | 1 |
| 9 | H-1005 | Nut— $\frac{1}{4}$ - 20 hex lock | 1 |

LIGHTING SYSTEM PARTS

| Item No. | Part No. | Description | Qty. |
|----------|----------|--|------|
| 1 | I-1049 | Taillight Bracket (see Fig. 6) | 1 |
| 2 | L-1013 | Headlight Ass'y w/bulb and wire | 1 |
| 3 | L-1016 | Headlight—sealed beam #4416 | 1 |
| 4 | I-1036 | Headlight Bracket | 1 |
| 5 | H-1056 | Cap Screw— $\frac{5}{16}$ - 18 x $\frac{7}{8}$ hex | 2 |
| 6 | H-1013 | Washer $\frac{3}{8}$ Split Lock | 2 |
| 7 | H-1008 | Nut— $\frac{5}{16}$ hex lock | 2 |
| 8 | L-1011 | Tail light ass'y | 1 |
| 9 | L-1018 | Bulb—taillight | 1 |
| 10 | H-1113 | Washer—#6 SAE | 4 |
| 11 | H-1112 | Nut—#6 - 32 keps nut | 2 |
| 12 | H-1111 | Machine Screw—#6 - 32 x $\frac{3}{8}$ RH | 2 |
| 13 | H-1012 | Washer— $\frac{3}{8}$ SAE | 2 |
| 14 | H-1054 | Cap Screw— $\frac{3}{8}$ - 16 x 1 hex | 2 |
| 15 | H-1143 | Screw—RH self tapping (see Fig. 6.) #7 - 16 x $\frac{3}{8}$ | 2 |
| 16 | L-9031 | Ground Wire—Taillight | 1 |

ORDER BY PART NUMBER →



FRONT END PARTS
SHOWN ON PRECEDING
PAGE:
Also: Headlight & Taillight
- Roll Cage