

TREK

OWNER'S
MANUAL

CONTENTS

Nomenclature	2	OPERATION AND SAFETY INSTRUCTIONS	
Owner's Responsibility	3	Caliper Brakes	12
Correct Frame Sizing	4	Operation	
ASSEMBLY AND ADJUSTMENT		Rims	
Saddle and Seatpost	4	Wheels	13
Saddle Installation		Quick Release Levers	
Saddle Angle		Caliper Brake Quick Release Lever	
Saddle Height		Quick Release Hubs	
Handlebar and Stem	6	Gears/Derailleurs	15
Handlebar Installation		How to Shift Gears	
Handlebar Height		Gear Inches	
Handlebar Angle		Bearings	16
Pedal Installation	7	Tires	16
Caliper Brakes	8	Changing Flat Tires	
Cable Installation		Riding at Night	17
Caliper Brake Adjustment		Reflectors	
Gears/Derailleurs	9	A Guide for Safe On-and-Off Road Operation	18
Rear Derailleur Adjustment		Maintenance Schedule	19
Front Derailleur Adjustment		Storage	20
Derailleur Trouble Chart		Limited Warranty	22
		Owner's Record	23

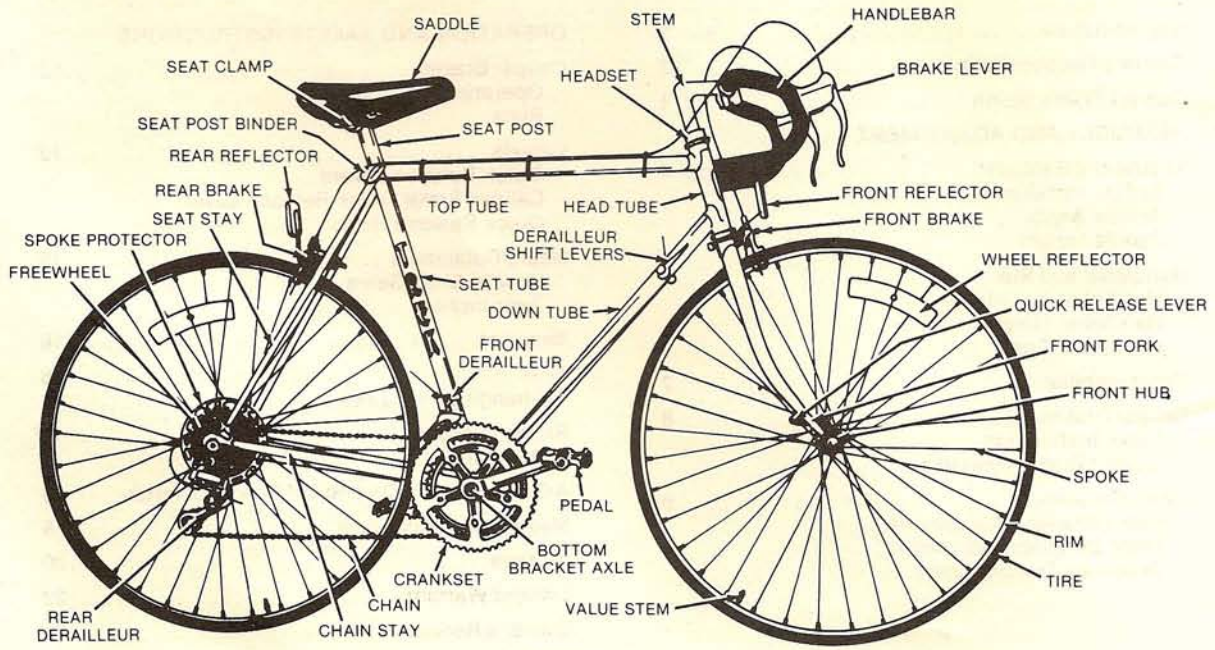


FIGURE 1

OWNER'S RESPONSIBILITY

1. TREK bicycles are intended for sale only in a fully adjusted and fully assembled condition. You are advised that adjustments to your TREK bicycle should be carried out only by your TREK dealer. If this service is not readily available, any adjustments should be made only within the limits of your own ability and at your own risk.
2. Read your owner's manual carefully. Familiarize yourself with the different sections on installation and adjustment, operation and safety instructions, and maintenance schedule.
3. Safe bicycle riding requires a good knowledge of state and local traffic regulations. Know your highway code.
4. Before riding your TREK bicycle make sure it is in safe riding condition. In particular check the following points:
 - a. Make sure your bicycle fits the intended rider (see Page 4).
 - b. Make sure the saddle and handlebars are correctly positioned and securely fastened. In particular be certain that the minimum insert marks on the side of the seat post and the handlebar stem are not visible above the top of the seat tube or headset.
 - c. Make sure that the brakes and derailleur gears are correctly adjusted and function properly.
 - d. Check that the steering is free but not overly loose.
 - e. Check that the wheels are true.
 - f. Check that all quick release levers (wheel hubs and brake calipers) are locked in a closed position.
 - g. Check all reflectors for proper positioning and visibility at all times.
 - h. Keep tires properly inflated as indicated on the sidewall. Gas station air hoses inflate bicycle tires extremely rapidly and the air pressure indicated is often unreliable. It is recommended that you inflate your tires with a hand or foot pump or at a bicycle shop that has a regulated air supply.
 - i. Make sure assembly instructions have been carefully followed and that all nuts, bolts, screws and cables are securely tightened.

CORRECT FRAME SIZING

TREK bicycles come in several frame sizes. Your authorized TREK dealer can best correctly size your bicycle.

As a final check, straddle the frame (see figure 2). The rider must be able to straddle the bicycle with at least 1" clearance above the top horizontal bar when standing.

ASSEMBLY AND ADJUSTMENT

As a service from your TREK dealer your TREK bicycle comes to you fully assembled and adjusted. If any further adjustments are required we suggest that you have them performed by your TREK dealer. If you choose to make such adjustments yourself,



FIGURE 2

use the following guidelines. We strongly advise that you only make such adjustments within the limits of your own technical ability.

SADDLE AND SEAT POST SADDLE ASSEMBLY

Depending on the model, TREK bicycles are equipped with two different types of seat post.

- Straight tubular type.
- Micro-adjust integral clamp type.

To attach a type (a) seat post (straight tubular type) to the saddle, insert the small end into the clamp beneath the saddle and tighten the clamp (see figure 3).

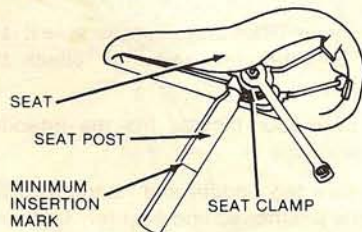


FIGURE 3

To attach a type (b) seat post (micro-adjust integral type) to the saddle, the two steel support wires under the saddle must be securely engaged and then firmly clamped in the microadjust clamp forming an integral part of the seat post (see figure 4).

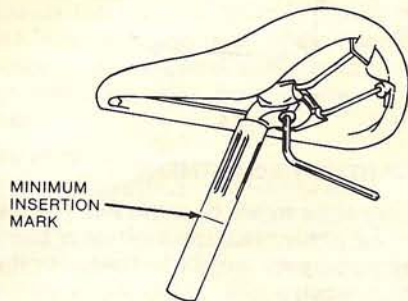


FIGURE 4

Once the saddle is attached to the seat post the seat post may be inserted into the seat tube of the bicycle frame, making sure that the seat post is inserted beyond the minimum insert mark engraved on the side of the seat post. At this point the saddle should be adjusted for angle and height.

CAUTION

YOUR BICYCLE MUST NEVER BE RIDDEN WITH THE SEAT POST RAISED BEYOND THE MINIMUM INSERT MARK.

A MINIMUM OF 2½" OF SEAT POST MUST ALWAYS REMAIN IN THE SEAT TUBE.

SADDLE ANGLE ADJUSTMENT

To adjust the saddle angle, loosen the seat clamp nuts and level the top of the saddle so it is parallel to the top tube of the frame. Tighten the seat clamp nuts firmly. Under-tightening can cause the saddle to slip while overtightening can strip the threads or damage the clamp.

SADDLE HEIGHT ADJUSTMENT

The height of the saddle is very important for riding comfort, efficiency and safety. To easily set this position, insert the seat until the maximum height line remains in the frame (NOTE: At least 2½ inches of the seat post must remain in the frame). Never ride the bicycle with the seat raised beyond this height. Then lower the seat until your heel (in stock-

ing feet) just rests on the pedal in its lowest position and your leg is straight when sitting comfortably on the seat. This seat position will allow your knee to be slightly bent when in a proper riding position with the ball of your foot (while wearing shoes) on the pedal. Tighten the seat post bolt firmly. Under-tightening can cause the seat post to slip while severe over-tightening can strip the threads or damage the clamp. Keep tightening until the seat will no longer turn or move when grasped and pulled or pushed.

HANDLEBAR AND STEM

HANDLEBAR ASSEMBLY

To install the handlebars, loosen the allen key stem expander bolt and insert the handlebar stem into the fork tube so that the minimum insert mark is no longer visible (see figure 5).

CAUTION

YOUR BICYCLE MUST NEVER BE RIDDEN WITH THE HANDLEBAR STEM RAISED BEYOND THE MINIMUM INSERT MARK. A MINIMUM OF 2 $\frac{3}{4}$ " OF STEM MUST ALWAYS REMAIN IN THE FORK TUBE.

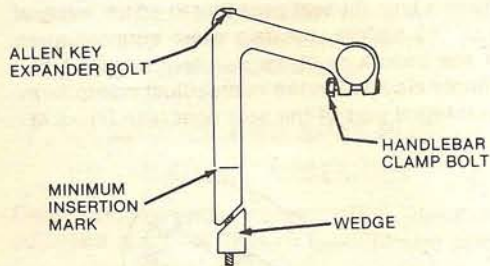


FIGURE 5

HANDLEBAR HEIGHT ADJUSTMENT

The handlebar height should be set so that you can comfortably and easily reach the controls or brake levers. Usually this position will be level with the saddle or slightly below it.

To raise or lower the handlebars, loosen the stem expander bolt two or three turns then tap it down to loosen the wedge. Use a soft face hammer or block of wood to protect the chrome. When repositioning the handlebar stem, do not raise it above minimum insert mark (NOTE: At least 2 $\frac{3}{4}$ " must remain in the fork stem to provide adequate strength and to prevent damage to the fork threads). Align the front of the stem with the centerline of the front wheel and

tighten the stem expander bolt firmly. Over-tightening can cause the handlebar clamp bolt to strip.

HANDLEBAR ANGLE ADJUSTMENT

The handlebars should be adjusted so the top of the bar is nearly horizontal and the ends point roughly towards the rear hub. When adjusting the handlebars, keep them centered in the handlebar stem. Tighten the handlebar clamp bolt firmly. Over-tightening can cause the handlebar clamp bolt to strip.

CAUTION

AFTER ADJUSTING THE HANDLEBAR ANGLE OR HEIGHT, TEST THE HANDLEBARS FOR LOOSENESS. YOUR HANDLEBARS NOW SHOULD NOT MOVE WHEN THE FRONT WHEEL IS LOCKED BETWEEN YOUR KNEES AND TURNING PRESSURE IS APPLIED TO THE HANDLEBARS.

PEDAL ASSEMBLY

Pedals are stamped "R" and "L" on the end of the pedal spindle or on the flat side of the spindle. Screw the pedal marked "R" clockwise into the crank on the right side of the bicycle. Screw pedal marked "L" counter clockwise into the left crank. Tighten both pedals securely.

CAUTION

FORCING THE WRONG PEDAL INTO THE WRONG CRANK ARM CAN STRIP THE THREADS IN THE CRANK ARM.

CALIPER BRAKES

It is wise to have all brake adjustments performed by your TREK dealer. Such adjustments often require special tools and technical competence. Before riding your bicycle, make sure you have familiarized yourself with the section in the manual under "Operation and Safety Instructions" pertaining to Caliper Brakes.

BRAKE CABLE ASSEMBLY

The left brake hand lever connects to (operates) the front brake and the right brake hand lever connects to (operates) the rear brake.

Remove cables from housing. Grease cables and re-assemble. Open the brake quick release lever and squeeze the brake caliper against the rim. (A third hand brake tool or a friend may be of valuable assistance.) Push the brake cable through the hole in the top of the brake hand lever body until the cable

housing stop seats securely against the hole in the brake lever body. Be sure it has cleared the rubber hood. Slip the barrel end of the brake cable into the slot inside the brake lever handle. Be sure that the cable end is properly fitted and seated securely. Run the other end of the cable through the adjusting barrel on the brake caliper and through the hole in the brake cable anchor bolt. Pull the cable tight and tighten the anchor bolt. With the quick release lever closed, check the brakes for proper clearance between brake pad and wheel rim. Test the brakes for proper operation.

BRAKE ADJUSTMENT

Make sure that the front ends of all four aluminum brake shoe holders are closed so the rubber brake shoes do not slide out when the brakes are applied.

Apply brakes to make sure the rubber shoes completely touch the sides of the wheel rims and do not rub on the tire. If necessary, loosen the brake shoe anchor nuts and move the shoes up or down. Retighten the anchor nuts firmly.

In use, the steel brake cable will stretch slightly and rubber shoes will wear down. Check this periodically and readjust cable as necessary.

In normal riding position, the brake shoes should clear the wheel rims by approximately 1/8" on each side. Be sure the rims are true and the Brake Quick Release is properly positioned. If the brakes are not this close, turn the adjusting barrel until there is approximately 1/8" clearance. Do not turn the adjusting barrel past the ends of the threads.

If the brake cannot be adjusted this way, screw the adjusting barrel all the way down. Hold the brakes against the rim. Loosen the cable anchor bolt, and pull the cable tight. Retighten the cable anchor bolt tight enough to prevent the cable from slipping when the brakes are applied. Be careful not to overtighten and strip the threads. Test the brakes by pulling the lever as far as possible by hand several times, then check the brake adjustment as before.

Periodically check the cables for kinks, rust, worn or broken strands, or frayed ends. Check the housing for bent ends, crimped holes, stretched coils, or worn housing. Replace cable and/or cable housing if necessary.

CAUTION

DO NOT RIDE ANY BICYCLE UNLESS THE BRAKES HAVE BEEN CHECKED AND ARE FUNCTIONING PROPERLY.

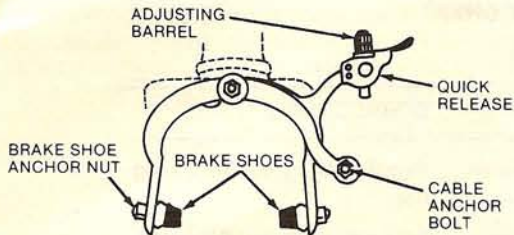


FIGURE 6
CALIPER BRAKE

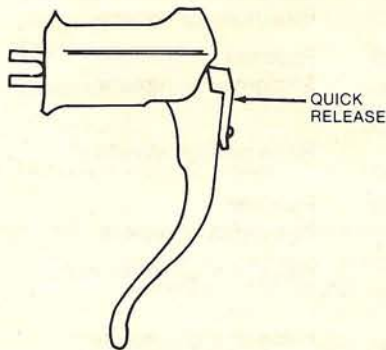


FIGURE 7
QUICK RELEASE LEVER

GEARS/DERAILLEURS

It is strongly recommended that you have all derailleur adjustments performed by your TREK dealer. Such adjustments require technical competence beyond the scope of most bicycle owners.

REAR DERAILLEUR ADJUSTMENT

Mount the bike in a repair stand, or have a friend hold the rear wheel off the floor. Shift the chain onto the smallest rear sprocket and largest front chainwheel. Adjust the high gear adjusting screw until the sprocket, chain and derailleur are all in a vertical line (check the alignment from behind the bicycle.) Screw the adjusting barrel all the way in. Shift the gear lever all the way forward. Loosen the cable clamp bolt. Pull the cable snug but not taut and tighten the cable clamp bolt. Note: these bolts are small and require careful tightening. Overtightening can break the bolt, while undertightening may cause the cable to slip. Shift the derailleur carefully on to the largest rear sprocket and smallest front chainwheel and adjust the low gear adjusting screw until the sprocket, chain and derailleur are again in vertical alignment. Test rear derailleur by shifting from large to small sprocket and back rapidly. The chain should move into position without hesitation. Check the cable for slippage.

DERAILLEUR TROUBLE CHART

Front Derailleur

PROBLEM	CAUSE	CORRECTION
Derailleur shifts by itself	Incorrect lever tension	Tighten shift lever with wing nut
Derailleurs won't shift	Rusty cable Dirty derailleur Loose cable Worn chain Bent derailleur	Replace cable and housing Clean and lubricate derailleur Retension cable Replace chain and freewheel Straighten or replace
Chain falls off	Incorrect adjustment Bent chainwheels or teeth	Readjust Straighten or replace
Chain rubs	Incorrect derailleur position Incorrect adjustment Bent derailleur	Raise or align derailleur Readjust Straighten or replace
Cage rubs chain wheels	Incorrect derailleur position	Raise or align derailleur
Cage hits crank	Incorrect derailleur position Bent derailleur	Raise or align derailleur Straighten or replace

DERAILLEUR TROUBLE CHART

Rear Derailleur

PROBLEM	CAUSE	CORRECTION
Derailleur shifts by itself	Incorrect lever tension	Tighten shift liver with wing nut
Derailleur won't shift	Rusty cable Dirty derailleur Loose cable Worn chain Bent derailleur	Replace cable and housing Clean and lubricate derailleur Retension cable Replace chain and freewheel Straighten or replace
Chain squeaks	Dry chain	Oil chain and derailleur
Chain falls off	Incorrect adjustment	Readjust
Chain jumps	Worn chain or freewheel	Replace both
Derailleur rubs on wheel	Incorrect adjustment Bent derailleur	Readjust Straighten or replace

If derailleurs continue to malfunction, do not ride your bicycle. Take it to your nearest TREK dealer for proper service.

CAUTION

DO NOT RIDE ANY BICYCLE UNLESS THE DERAILLEURS OR GEARS HAVE BEEN CHECKED AND ARE FUNCTIONING PROPERLY.

FRONT DERAILLEUR ADJUSTMENT

Shift the front derailleur onto the smallest front chainwheel and the largest rear sprocket. Adjust the low gear adjusting screw until the derailleur can be adjusted so that the chain will not rub. Shift the lever all the way forward. Pull the cable snug, but not taut, and tighten the cable clamp bolt. Do not over-tighten or the bolt may break. Under-tightening may allow the cable to slip. Shift the rear derailleur all the way to the smallest sprocket. Shift the front derailleur to the other chainwheel. Adjust the appropriate high gear adjusting screw until the chain does not rub. Shift derailleurs through all combinations of gears. Check that the chain does not fall off while shifting and that the derailleurs do not rub on any part of the wheel, crank or chain wheel set. Check that the derailleurs operate smoothly through all gears. Check the cable for slippage.

OPERATION AND SAFETY INSTRUCTIONS

CALIPER BRAKES

Do not ride any bicycle until the caliper brakes have been checked and are functioning properly.

OPERATION

Always apply the rear brake first when stopping. For safe riding, always apply brakes before going into a turn. Braking while turning could cause your wheels to skid sideways.

CAUTION: WET WEATHER OPERATION

NO BRAKES WORK AS EFFICIENTLY UNDER WET CONDITIONS AS THEY DO WHEN DRY. PRECAUTIONS MUST BE TAKEN WHEN RIDING IN RAINY OR WET WEATHER. EVEN WHEN PROPERLY MAINTAINED, LUBRICATED AND ADJUSTED, BRAKES REQUIRE EXTRA LEVER PRESSURE AND LONGER DISTANCES TO STOP IN WET WEATHER. SLOW DOWN IN DANGEROUS SITUATIONS AND AVOID LAST SECOND PANIC STOPS. AVOID RIDING OVER WET LEAVES, SEWER GRATES, POTHOLES, RAILROAD TRACKS AND OTHER HAZARDS WHICH BECOME SUBSTANTIALLY MORE

DANGEROUS WHEN THEY ARE WET THAN WHEN THEY ARE DRY. AUTOMOBILE DRIVER VISION IS GREATLY REDUCED IN WET WEATHER. TAKE THIS INTO ACCOUNT. MAXIMIZE YOUR VISIBILITY AT ALL TIMES, ESPECIALLY IN DARK AND RAINY WEATHER. PLAN AHEAD TO AVOID DANGEROUS SITUATIONS WHICH COULD LEAD TO LOSS OF CONTROL OR ACCIDENTS.

QUICK RELEASE LEVERS

Quick release brakes allow the brakes to be opened wide for easy removal of the wheel (all TREK bicycles have this feature). Quick release hubs allow the wheels to be removed and installed without tools.

Brake Quick Release Lever Operation

Front and rear brakes have separate quick release levers and only one needs to be released for the wheel being removed. Depending on the model, there are two different locations for the quick release levers in TREK bicycles.

1. On the hand brake lever (see figure 8)
2. On the caliper brake arm (see figure 9)

(1) To release quick release hand lever, squeeze the brake lever until the brake quick release lever can be

pushed to the side, then release the hand lever. The brake caliper should open wider. To re-set the brake quick release, squeeze the lever until the quick release lever can be pushed back in line with the lever. Release the lever and check the brake adjustment.

(2) To release the quick release on the caliper brake arm, pull the quick release lever out away from the frame. To re-set the quick release lever push it back towards the frame, Resetting the quick release lever is easier if the brake caliper is lightly squeezed together.

Hub Quick Release Lever Operation

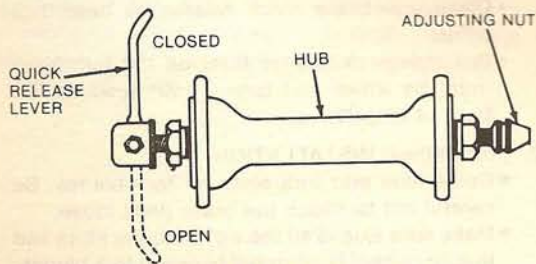
1. Front Wheel REMOVAL

- Disengage brake quick release as described before.
- Pull the quick release lever on the hub away from the wheel and turn it 180° towards the front of bicycle.

2. Front Wheel INSTALLATION

- Guide axle into fork slots on fork blades. Be careful not to knock the brake pads loose.
- Make sure axle is all the way in to the slots and that the wheel is centered between fork blades.
- Position quick release lever so that it is open and that it faces the front.

- Tighten or loosen the adjusting nut on the opposite side from the lever so the lever can be turned approximately $\frac{1}{2}$ of the way (lever is parallel to axle) before meeting any noticeable resistance.
- Push the lever all the way to the rear, parallel to the frame, to securely lock the wheel in place.
- Test the lever. If you can rotate the lever up and down with your hands, then it is too loose. Open the quick release lever and further tighten the adjusting nut until there is no looseness.
- Re-engage the brake quick release lever as described above. Squeeze the brakes fully a couple of times and check for proper adjustments.



HUB QUICK RELEASE MECHANISM
FIGURE 8

3. Rear Wheel REMOVAL

- Shift chain onto smallest rear sprocket.
- Disengage brake release lever as described above.
- Pull the quick release lever on the hub away from the wheel and turn it 180° towards the front of the bicycle.

4. Rear Wheel INSTALLATION

- Shift derailleur to the smallest rear sprocket.
- Pivot derailleur to the rear.
- Slide wheel between rear chain stays.
- Guide chain onto smallest rear sprocket.
- Slide wheel into rear fork slots. Release derailleur. Make sure wheel is properly centered.
- Position the quick release lever so it is open and faces the front of the bicycle.
- Tighten or loosen the adjusting nut on the opposite side from the lever so that the lever can be turned approximately $\frac{1}{2}$ of the way (parallel to axle) before meeting any noticeable resistance.
- Push the lever all the way to the rear, parallel to the frame, to securely lock the wheel in place.
- Test the lever. You should be unable to move the lever without opening it.
- Re-engage the brake quick release lever as described above. Test brakes as for front wheel.

CAUTION

IF YOUR BICYCLE HAS BEEN PARKED UNATTENDED, IT IS A GOOD PRACTICE TO CHECK THE QUICK RELEASE LEVERS ON THE HUBS AND ON THE BRAKES TO BE SURE THEY ARE PROPERLY ADJUSTED AND FIRMLY CLOSED.

BEFORE RIDING YOUR BICYCLE, MAKE SURE THAT YOUR WHEELS ARE CENTERED AND SPIN FREELY WITHOUT GRABBING OR RUBBING AGAINST YOUR BRAKE BLOCKS.

RIMS

Wipe rims with clean rag or wash with soap and water, rinse thoroughly, then dry. It is important that rims be kept clean for brakes to work properly. Take precautions to keep oil off rims when lubricating bicycle. Do not wax rims where brake pads rub.

GEARS/DERAILLEURS

The derailleur gear mechanism is so named because it refers to the derailing or shifting of the chain from one sprocket to another.

HOW TO SHIFT GEARS

1. When shifting gears on a bicycle you have to plan ahead because you can only shift gears while the pedals and chain are moving forward. Never attempt to shift gears when stopped or when back pedalling. When shifting, ease up on the pedals as excessive chain tension makes it difficult to shift. Do not shift when going over railroad tracks or other bumpy surfaces as the chain may not shift properly and could come off.
2. The gear shift levers are operated by finger tip control. On a TREK 10 speed bicycle the left hand lever controls the front derailleur mechanism. While the right hand lever controls the rear derailleur gear mechanism. Shift only one lever at a time.
3. Choose the gear combination that is most comfortable for the road conditions. This should enable you to maintain a constant rate of pedalling. It is not essential that various gear combinations be used in sequence.

GEAR INCHES

The gear inch (or number) refers back to the day of the high wheeler or penny farthing bicycle. It was

the diameter of the wheel. The size of the wheel was limited by how long the rider's legs were. One turn of the pedals meant one turn of the wheel, and the bicycle went one diameter of the wheel, say 50 inches times pi (3.14) = 157 inches. With a ten speed, the rear wheel can go faster than the pedals. If the rear sprocket is 15 and the front is 45, this gives a gear ratio of 3 and a gear inch of 3 x the wheel diameter, or 81 gear inches. Eighty-one times pi (3.14) = 245 inches of travel for each turn of the pedals. Since not all bicycles have the same size wheels, the gear ratio is not very meaningful, but when multiplied by the wheel diameter to give gear inches, it becomes a useful number that can be applied to all bicycles.

The following formula will help you find the gear inch for all gears on your bicycle:

$$\begin{array}{l} \text{No. front sprocket teeth} \\ \text{No. rear sprocket teeth} \end{array} \quad \times \text{ wheel diameter} = \text{gear inch}$$

To use this formula, count the number of teeth on the front chain wheel and divide it by the number of teeth on the rear sprocket. Multiply this number by the exact diameter of your tire. This gives you the gear inch. If you wish to know how far your bicycle goes for each turn of the pedal, multiply the gear inch by pi (3.14).

BEARINGS

There are four places on every TREK bicycle which contain bearings that may require occasional adjustment. They are the steering headset, front and rear hubs, and bottom bracket axle. Such adjustments are beyond the scope of the average bicycle owner as they require a high level of technical competence and special tools.

CAUTION

IF EXCESSIVE PLAY OR LOOSENESS SHOULD DEVELOP AT ANY ONE OF THESE FOUR BEARING LOCATIONS, RETURN YOUR BICYCLE TO YOUR TREK DEALER FOR IMMEDIATE SERVICING.

TIRES

CHANGING FLAT TIRES

1. Remove wheel from bicycle.
2. Squeeze out air to completely deflate tire.
3. By pushing inward, loosen the tire from the rim all the way around.

4. Pry one side of the tire up over the edge of the rim. Note: Use tire tools or other smooth ended tools. Do not use a screw driver or you may further damage the tire and tube.
5. Remove tube, leaving tire on the rim.
6. Locate leak and patch according to instructions with patch kit or replace tube if necessary.
7. Match the tube with wheel to locate possible source of puncture in tire. Mark the location.
8. Remove tire from rim and check tire to determine the cause. Often the cause is still in the tire. Check entire tire and rim for damage. Correct and replace before installing tire.
9. Remount one side of tire on rim.
10. With a hand pump, put enough air in the tube to give it some shape.
11. Put valve stem in hole in rim and work tube into tire **being careful not to let it twist.**
12. Without using tools, push second side of tire on rim. Start in one spot and work in both directions. You may have to stop and let air out of the tube.
13. To get the last few inches on the rim, keep tight pressure on the tire to slide it over the rim with the palm of one hand, and while maintaining that pressure, push the tire away from the edge of the rim into the center. Using tools is a great temptation, but avoid doing so. They can damage the tire, break the wire bead, and puncture the tube. If you cannot get the tire on without using tools, take it to your nearest TREK dealer.
14. Check that the tube is not caught between the tire bead and the rim at any point.
15. Inflate the tire to 25 pounds and check the tire for proper seating. Make sure that the tire bead sits in the rim to the same depth at all points. If properly seated, inflate to proper pressure (stamped on side of tire).
16. Reinstall wheel, check gears and brakes.

RIDING AT NIGHT

REFLECTORS

Reflectors must be kept clean and properly aligned. They can be washed with soap and water when necessary. The front and rear frame reflector should be

vertical and face directly to the front or rear. If the reflectors become lost, damaged, or need adjustment, it is advisable that you take your bicycle to your nearest TREK dealer to have the reflectors properly aligned or replaced. As good as your reflectors are, they have definite limitations for safe night time use. They will not light up the road in front of you, nor illuminate you if someone else does not have lights on. For nighttime riding, a good battery or generator powered head light and tail light are strongly recommended. Other lights are available that provide eye catching motion when strapped to your leg. When wearing long pants, leg bands are useful to keep your pants leg out of the chain. These can be found with bright reflective material that aids night time visibility. Silver reflective tape can be usefully applied to helmets, crank arms, and seat post. Sew on reflective material can be applied to jackets or clothing normally used for bicycle riding.

A GUIDE FOR SAFE ON-OFF ROAD OPERATION

1. Familiarize yourself with your bicycle controls. Practice braking and shifting in an empty parking lot or secluded area before taking the bicycle onto roadways.

2. Be sure your bicycle is in good safe mechanical condition.
3. Obey ALL traffic regulations, signs, signals, and markings.
4. Use the proper hand signals to indicate turns and stops to pedestrians, automobiles, and other bicyclists.
5. Ride on the right side of the street. Do not ride in the direction opposite to traffic. Never ride more than two abreast and ride single file in traffic. Ride in a straight line. Avoid dangerous swerving. NOTE: Check local laws, some states prohibit more than one vehicle side by side in a single lane.
6. Beware of parked cars pulling into traffic and car doors opening unexpectedly.
7. Watch out for drain grates, soft shoulders, and other road surface hazards. Cross railroad tracks at a 90° angle.
8. Be extremely careful at intersections, especially when making a left turn. Yield the right of way to pedestrians.
9. DON'T hitch a ride on a truck or other vehicle.

10. DON'T stunt ride or race in traffic.
11. DON'T ride double or carry packages that interfere with your vision or control. Be careful packages do not come loose from racks or bags and become tangled in wheels.
12. Always LOCK your bicycle properly when unattended. Register your bicycle to facilitate identification and recovery in case of theft.

MAINTAINENCE SCHEDULE

I. WEEKLY

1. Wipe off your bike with a damp rag.
2. Check tire pressure.
3. Check brakes.

II. MONTHLY

1. Oil cables, chain, pivots (brake levers and calipers, shift levers, and derailleurs). Use proper bicycle oil. Some oils can evaporate and leave a gummy residue. Remove excess oil to avoid attracting dirt to exposed surfaces.
2. Tighten all loose nuts and bolts.

III. TWO, THREE OR FOUR TIMES A YEAR

1. Check wheels and have bicycle shop true them if necessary.
2. Replace brake blocks if they are worn down past the grooves.
3. Clean chain and other greasy parts with a brush and kerosene and then relubricate.
4. Check gear adjustments.

IV. EVERY ONE OR TWO YEARS

Have a bicycle shop:

1. Clean and repack with grease all bearings in the hubs, bottom bracket, and headset. Oil or grease pedal bearings.
2. Replace frayed cables; if you have been lubricating them properly, they should run smoothly. Clean or replace them as necessary.
3. Replace tires if cord is split or if cord can be seen anywhere.

This maintenance schedule is based on normal usage. If you ride your bicycle more than normal, or do not ride it at all for long periods of time (lack of use is hard on a bicycle if not properly stored), you will have to check over your bicycle more often than the schedule lists. If any part appears to be malfunctioning, check it and adjust it immediately, or have it

repaired by your nearest TREK dealer. Do not ride any bicycle that is not operating properly.

STORAGE

Your bicycle should be cleaned, lubricated, and waxed before storage. It should be hung up so the tires are off the ground (it can be hung in any direction). Approximately $\frac{1}{2}$ normal air pressure should be maintained in the tires. When bringing a bike out of storage, it is wise to take this opportunity to have your nearest TREK dealer give it a complete check-up before starting the new season.

THE UNIVERSITY OF CHICAGO

PHYSICS DEPARTMENT

PHYSICS 551

LECTURE NOTES

BY

PROFESSOR

OF THE UNIVERSITY OF CHICAGO

CHICAGO, ILLINOIS

1955

TREK Bicycle Corporation Limited Warranty

ONE YEAR WARRANTY ON COMPLETE BICYCLE

The TREK Bicycle Corporation warrants this new TREK bicycle when purchased within the United States and operated in a normal manner against defective materials and workmanship for a period of one year from the date of original purchase. TREK will, through its dealers, repair or replace, free of charge, including all service and labor, all parts found to be defective and subject to such warranty.

LIFETIME WARRANTY ON FRAME

In addition to the one year warranty on the complete bicycle, if the frame is found to be defective in materials and workmanship during the lifetime of its original owner, TREK will, at TREK's option, through one of its dealers, repair or replace the frame.

All labor charges for the frame replacement will be the responsibility of the original owner.

This warranty does not apply to damage resulting from accident, misuse, abuse, neglect, normal wear, improper assembly or improper maintenance. The user assumes the risk of any personal injury, damage or failure of the bicycle or any other losses if TREK bicycles are used in any competitive event including but not limited to bicycle racing, bicycle motorcross, dirt biking or similar activities.

TREK neither assumes nor authorizes anyone else to assume for it any other obligations or liability in connection with this TREK warranty.

TREK BICYCLE OWNER'S RECORD

(Keep this record for future reference)

OWNER'S NAME _____

DATE OF PURCHASE Aug 28, 1981 PURCHASE PRICE \$600

DEALER NAME ADAMS AVE. BICYCLE, SAN DIEGO CA

MODEL NUMBER 710

SERIAL NUMBER* _____ COLOR Metallic Pewter

CITY LICENSE NUMBER _____

*The serial number of your TREK bicycle is located on the underside of the bottom bracket shell.

NOTICE: For the name of your nearest TREK dealer, please write or call

TREK Bicycle Corporation, 801 W. Madison, Street, Waterloo, WI 53594
(414) 478-2191

