

the Amazing

# STEER SAFE

CAN YOUR WIFE HANDLE YOUR RV WHEN THE FRONT  
TIRE BLOWS AT 65 MPH? MRS. SANTIAGO DID WITH  
STEER SAFE STABILIZERS!!!

## Steering Stabilizer

STEER SAFE, INC.  
GENTLEMEN:

We first had a 1977-26' Motorhome and had the **STEER SAFE STABILIZERS** installed. We were on the way to Las Vegas and I was driving. I was traveling at approximately 65 mph, having just passed several vehicles, when the right front tire blew. My husband, aware of what had happened and of me being **A NOVICE MOTORHOME DRIVER**, tried to tell me what to do or not do although all he could say was "**DON'T, DON'T, DON'T.**" I was able to steer the coach to the side of the trouble lane with ease.



Photo By Santiago

### ..... SECOND EXPERIENCE .....

We had purchased a new motorhome and once again had **STEER SAFE STABILIZERS** installed. We were on a trip West of Blythe on Hwy. 10. We had passed several 18 wheelers, speed 65 mph, when it felt as if the right front tire had blown again. This time we had no brakes, the coach handled real well, although it took much longer to stop it. We traveled over a quarter of a mile before stopping . . . **TO OUR SURPRISE WE HAD LOST THE ENTIRE FRONT WHEEL.** It had broken off at the hub, severing the brake line.



Photo By Santiago

Damage was minimal. We feel extremely lucky. Our insurance adjuster told us when something like this happens, the coach is usually totalled and serious injuries are incurred.

**YOU CAN BE SURE WE WILL NEVER DRIVE A COACH WITHOUT STEER SAFE STABILIZERS.**

## Steer Safe, Inc.

P.O. BOX 149 • 3321 RAYMOND REED BLVD.  
DEMING, NEW MEXICO 88031  
(505) 546-8894

**1-800-845-5504**

IN USA & CANADA

MR. & MRS. JIM SANTIAGO  
LONG BEACH, CALIFORNIA

• Original Letter on File.

# WHAT ABOUT STEER SAFE STABILIZERS?

A Reprint From...

## OPEN ROAD

VOLUME 10

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NO. 1



Chev. - GMC Independent Suspension

**POSITIVE CONTROL UNDER EXTREME CONDITIONS SUCH AS FRONT TIRE BLOW!** When a relatively new product on the market claims to solve a very serious problem such as the terrific loss of equipment and lives resulting from front tire blows on heavy duty vehicles two questions immediately arise:-

1. How does it work?
2. Does it actually produce the claimed advantages?

It is quite possible that by answering the first question in some detail, the reader will be able to make an intelligent judgement as to the answer to the second question.

Before going into the technical aspects of stabilization, it would be well to go over the **THEORY** involved in order that we might test the end product against what we actually want it to do. A great many people, including some heavy duty truck drivers, **MISTAKENLY** believe that stabilizers help **STEER** the vehicle. **THIS IS NOT TRUE.**

The perfect stabilizer is one which successfully minimizes all **OUTSIDE** forces to the extent that the steering train on a heavy duty truck may be operated with the ease and positive control for which it was designed. It should also afford the maximum protection of its pre-charged stabilization force throughout the **COMPLETE RADIUS** of a turn

by exerting equal spring pressure on **BOTH** sides of the axle at all times **REGARDLESS OF THE POSITION OF THE WHEEL.** This is the problem that has plagued automotive engineers in their efforts to design a really competent stabilizer. Steer Safe, by inventing the oscillatable fulcrum bar assembly which changes fulcrum points automatically as the wheel is turned and thus affords equal tension on both sides of the axle regardless of the wheel position, seems to have finally overcome this problem.

This same ingenious device also does away with the dangerous **CENTERING FORCE** encountered in most previous efforts to use a pre-charged force of sufficient strength to offset the outside forces encountered by heavy duty vehicles. This centering force was generated by the fact that, until the invention by Steer Safe, no satisfactory way had been devised to keep the inside spring from collapsing as the outside spring was extended when the vehicle was in a turn. This left **ALL** the force on just one side of the axle thereby creating a centering device instead of the desired stabilizer.

Finally, claim Steer Safe engineers, because the ratio of the movement of the two ends of the oscillatable fulcrum bar

continuously changes with the turning of the wheel, the hard steering which was evident in early efforts at stabilization has been completely eliminated.

With up to 35 to 1 steering ratios in most trucks, the steering train does an adequate job until it is attacked by a 6,000 pound jolt from a front wheel rim hitting pavement after the 10 inch drop from a blowout or by the sudden grab of up to 8,000 pounds of a very soft shoulder. It is here that stabilization comes into play. With up to the pre-charged force of 400 lbs. afforded by the new Steer Safe Stabilizers, the stabilizer **RESISTS** the movement of the front wheel in any direction other than the one being steered by the driver. This provides two very important functions:- (1) The steering wheel is **NOT** suddenly jerked into an off the lane or a jack knife position from which the driver is incapable of recovering because of his weight X speed force and (2) the stabilizer continues to resist the outside force thus giving the driver positive control in keeping his vehicle in the desired lane.

Testing Steer Safe to prove its ability to furnish positive control under the most extreme conditions was carried out over a six months period under the critical eyes of State Police, State Highway officials, truck magazine editors and feature writers and



many interested fleet owners. All blows on heavy duty trucks were conducted with attested gross weight of 80,000 pounds or more and speeds of over 60 m.p.h.

Fused dynamite was used as a blowing agent in order to get immediate deflation at full rate of speed. This could NOT be done by placing a spike or other tire deflator at a known position in the

trucks course. Additionally Steer Safe did not want the driver to know WHERE the tire was going to blow—thus affording a true highway driving simulation.

In NOT one of the many tests made did the vehicle vary more than six inches from its original route. Even more important was the fact that the driver in every instance controlled the vehicle

with ONE HAND only—all these facts are recorded on film and witnessed from within the cab by magazine editors and other observers.

The drawings below illustrate how the patented oscillatable fulcrum bar used exclusively by Steer Safe Stabilizers has solved for the first time the problems heretofore defying automotive

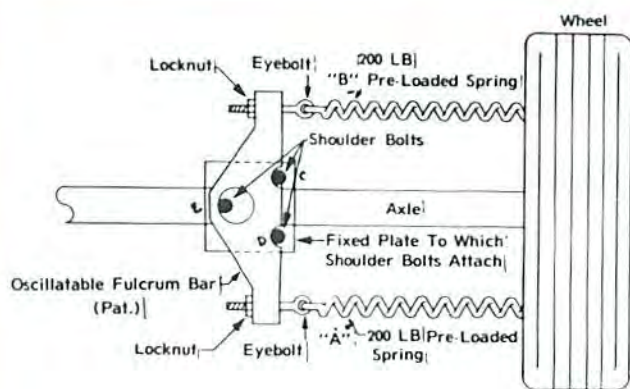


FIGURE 1

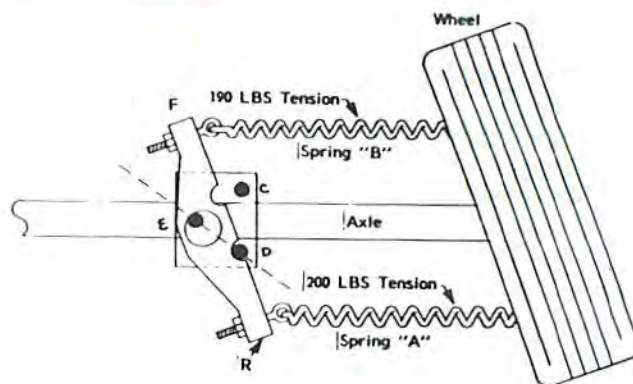


FIGURE 2

Viewed From Below

engineers over the last 60 years.

**FIGURE ONE (1)** shows the simple yet sturdy three point suspension which allows Steer Safe to use the most powerful springs and STILL GET EASE OF STEERING yet AVOID dangerous centering effects. Also note the large radius of hole around shoulder bolt E. This affords a fail safe feature in that, should either spring fail or be broken, the fulcrum bar is allowed to relax the remaining spring of all force thus returning vehicle to original state before installation. **SUCH A FAIL SAFE DEVICE IS AVAILABLE ONLY ON STEER SAFE.**

**FIGURE TWO (2)** shows, how when the wheel is turned past two (2) degrees, the oscillatable fulcrum bar moves to a new fulcrum point (D). In so doing it has caused spring "B" to extend

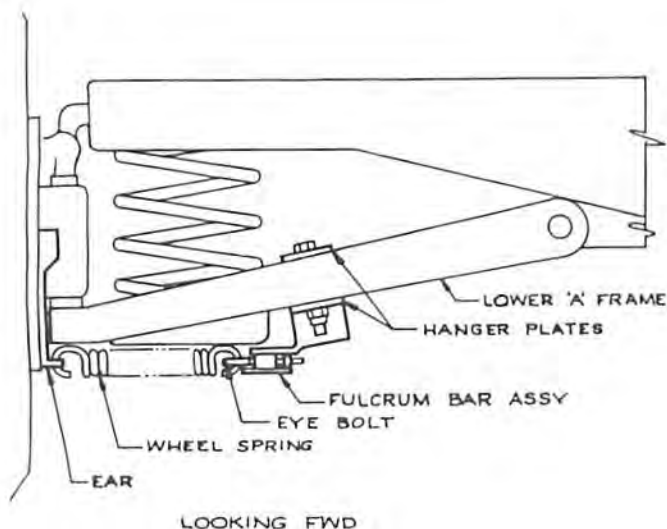
just as rapidly as spring "A" although the wheel is moving toward it. This occurs because the length of the fulcrum bar D-F from its present fulcrum D now travels at an 8 to 5 ratio FASTER than the shorter end of the fulcrum bar D-R. This allows 95 per cent of the applied pre-charge force to remain in effect throughout the turn, yielding only a 5 per cent centering force which is deemed proper.

While safety for driver and vehicle is the primary benefit yielded by Steer Safe's stabilization system, the SECONDARY effects have been a welcome bonus to the trucking industry. The same stabilizing force which resists major outside forces is also CONSTANTLY resisting lesser forces such as road irregularities, chug holes and even slightly worn steering

train parts. Efficient operators who have kept detailed records on their Steer Safe equipped units over many thousands of miles invariably report from 20 per cent to 30 per cent increase in front tire mileage and as much as 100 per cent increase in the life of spindles and spindle bearings. Many have reported a general decrease in overall front end repairs. These benefits, of course, vary with the condition of steering train and front end running gear at the time of installation.

The amount of power applied to aid your steering efforts and the built in **FAIL SAFE DEVICE** make **STEER SAFE** unique. **SHOULDN'T** you understand these two facts when you buy?





CHEV & GMC MOTOR HOMES AND PICKUPS



DODGES WITH DISC BRAKES

#### CHASSIS APPLICATION CHART

MAKE	CHASSIS NO.	MODEL
CHEVROLET & GMC	P-30, C-30 CHASSIS	NC-800X
DODGE 1979 & up	M-400 & M-500 (calipers to rear)	RM-500-79X
DODGE 1973 to 1978	RM-350, RM-400, RM-500 (calipers to front)	RM-500
DODGE	RM-600	RM-600
DODGE MINI MOTORHOME	MB-300, MB-400, F-40, F-44,	MB-300F40
FORD MINI MOTORHOME	E-350-80	E-350-80
FORD CLASS A & MINI MOTORHOME W/TWIN I-BEAM	E-300 to E-350	E-350-86
JOHN DEERE/OSHKOSH	JOHN DEERE/OSHKOSH W/FC-901 FRT. AXLE	IHC-800
FORD (STRAIGHT AXLE)	F-SUPER DUTY CLASS A FORD CHASSIS	F-SUPER

#### WHAT ABOUT STEER SAFE?

1. **Steer Safe**, because of its patented oscillatable fulcrum bar, is the only true stabilizer on the market. It provides up to 400 lbs. of preset tension **constantly working against any outside force** trying to move the vehicle wheels in any direction other than the one in which it is being steered.
2. **Steer Safe** is a sturdy reliable steering stabilizer which is warranted for the life of the vehicle under one ownership. (We have many 18-wheelers with over 500,000 miles.)
3. **Steer Safe** requires no welding. It is entirely a bolt-on installation.
4. **Steer Safe** requires no maintenance because it is equipped with Delrin Bearings which never require servicing.
5. **Safety:** As shown by our many controlled tests and already proven by hundreds of on-the-road experiences related to us by reputable truck drivers and motorhome operators, **Steer Safe** helps give a driver amazing control over his rig under severe and unexpected conditions such as front tire blowout, soft shoulder or berm, high winds and uneven road surfaces.
6. **Fatigue:** Because it helps pull your wheel, spindle and steering arm parts up in a firm and proper position (provided they are not loose or worn), it will cause your rig to track down the road unbelievably straight and help eliminate pull, creeping and wandering. Since you no longer have to be making constant steering corrections you sit relaxed and reach your destination much less fatigued.

NC - 800  
INSTALLATION INSTRUCTION SHEET  
WHEEL BRACKET

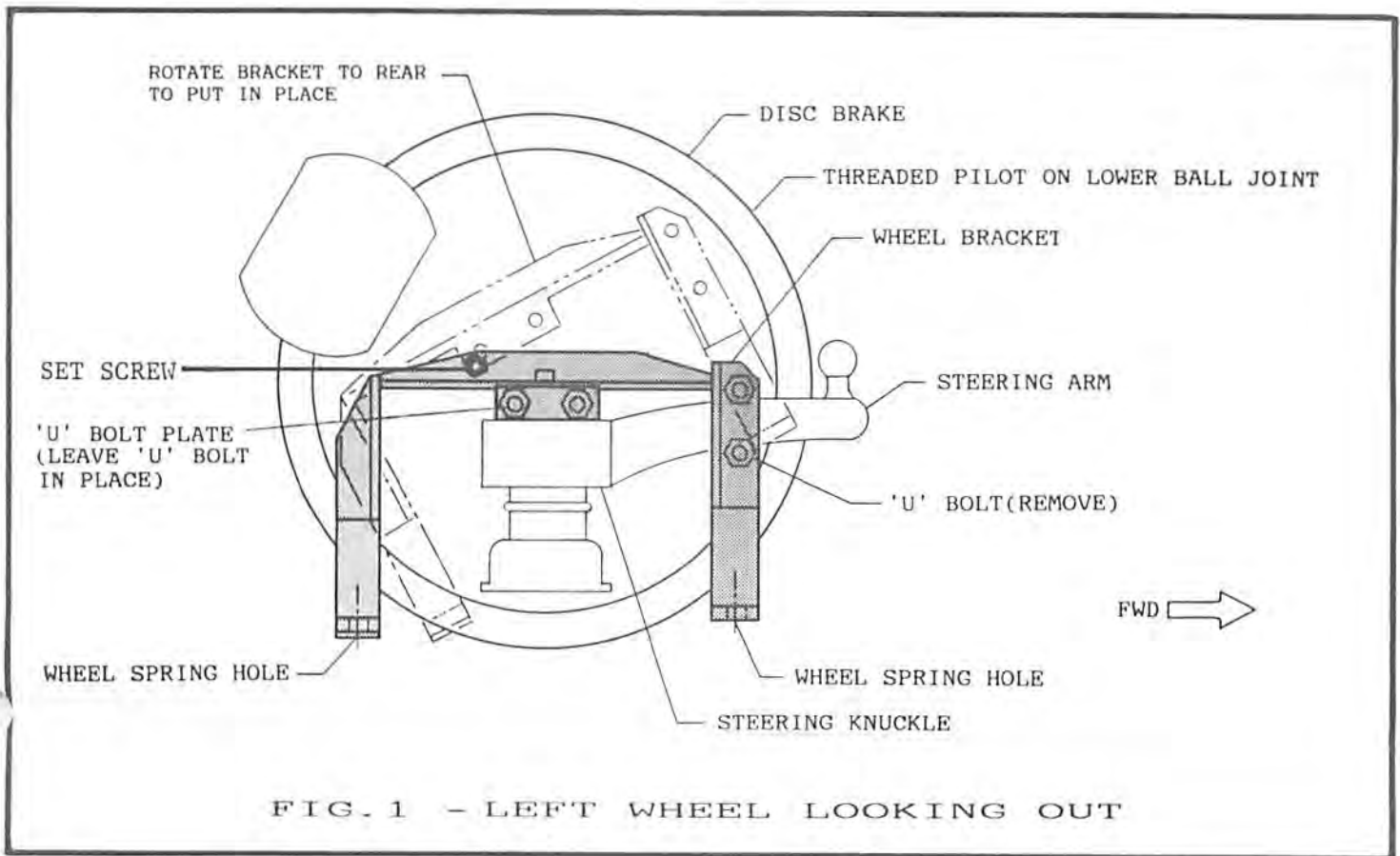


FIG. 1 - LEFT WHEEL LOOKING OUT

FIGURE 1

**IMPORTANT! WHEELS MUST BE IN STRAIGHT AHEAD POSITION**

**\* MEASUREMENT MUST BE THE SAME ON BOTH SIDES OF VEHICLE (SEE FIGURE 2) \***

1. Wheel brackets are marked right and left. Be sure to PLACE bracket on PROPER side of vehicle. Remove "U" BOLTS that go around steering arm. LEAVE "U" BOLT IN THE "U" BOLT PLATE IN PLACE. (SEE FIGURE 1). BACK OFF SET SCREW FLUSH.
2. **\*\*VERY IMPORTANT\*\*** WHEEL BRACKETS MUST ROTATE TO THE REAR TO GET ON. With springs holes down and pointing toward center of vehicle, place "U" BOLT over nut and center hole on threaded pilot on lower ball joint. "U" BOLT PLATE SHOULD REST ON STEERING KNUCKLE. (IF COTTER PIN ENDS INTERFERE BEND OUT OF WAY SO "U" BOLT WILL GO DOWN ON NUT.)
3. Place "U" BOLT around behind steering arm and through holes in angle iron.
4. Tighten nuts on "U" BOLT around nut TIGHT. (Plate Holding "U" Bolt may raise a little when tightening.)
5. TIGHTEN nuts on "U" BOLT around steering arm TIGHT.
6. TIGHTEN SET SCREW AND LOCKNUT.

**STEER SAFE, INC.**

P.O. BOX 149 - AIRPORT — DEMING, NM 88031 — 505-546-8894

J & J, 94

NC - 800  
**INSTALLATION INSTRUCTION SHEET**  
**FULCRUM BAR ASSEMBLY**

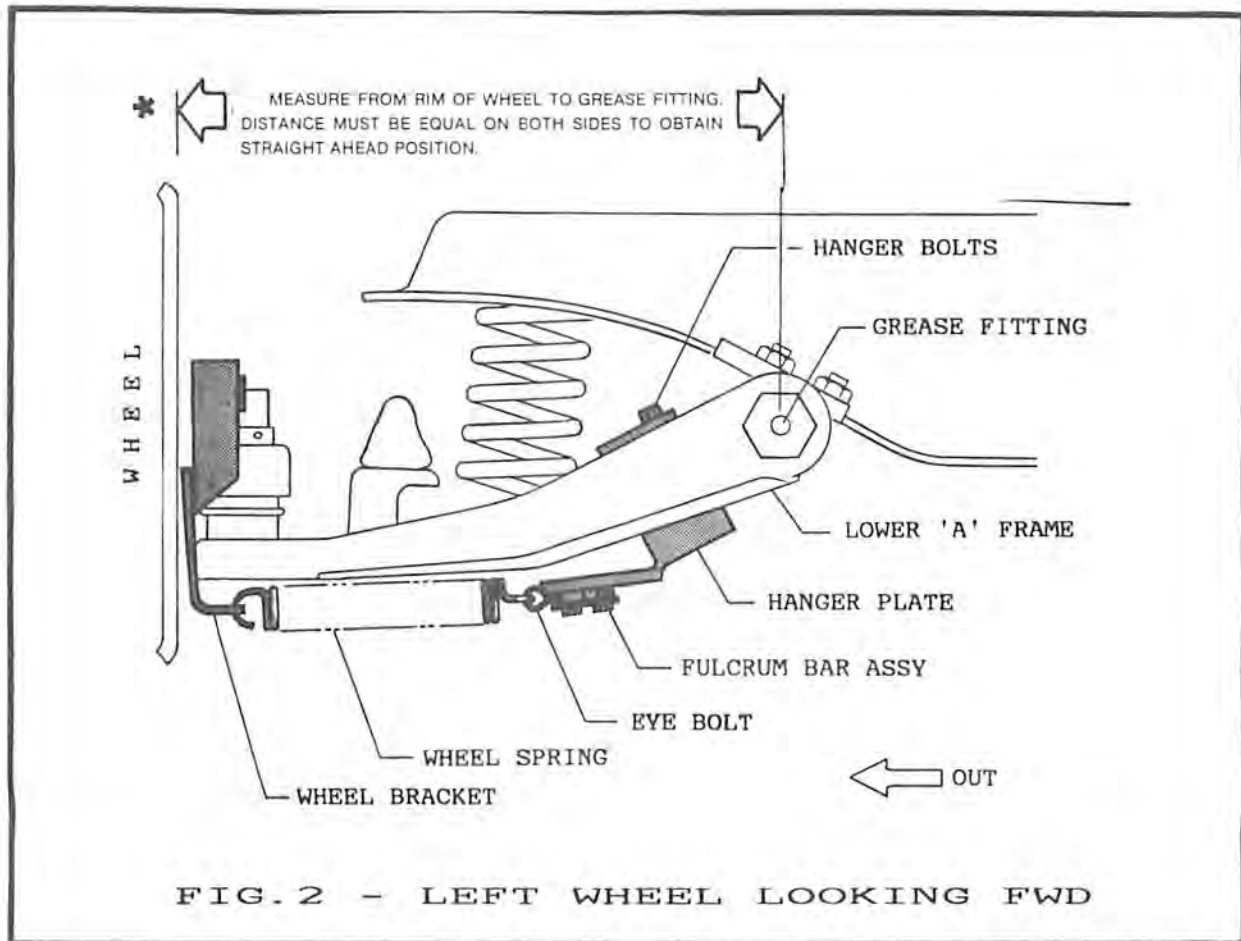


FIGURE 2

**\* IMPORTANT! WHEELS MUST BE IN STRAIGHT AHEAD POSITION.**  
**\* MEASUREMENT MUST BE THE SAME ON BOTH SIDES OF VEHICLE (SEE FIGURE 2) \***

1. Place fulcrum assembly under each side with eyebolt HOLES on each pointing toward each wheel.
2. Remove nuts from bolts holding hanger plates together-leaving bolts in top plate.
3. With bolts hanging toward ground, place upper plate OVER lower "A" frame suspension arm. (Figure 2)
4. Place springs in wheel bracket holes and connect to fulcrum bar assembly eyebolt holes (LEAVE EYEBOLT NUTS AS THEY ARE -- DO NOT TIGHTEN YET.)
5. Lift entire fulcrum assembly to "RUN" bolts down through holes on fulcrum plate and run on nuts sufficiently LOOSE to allow the fulcrum some slippage back and forth on "A" frame.
6. Pull entire fulcrum bar assembly toward center of vehicle far enough to take ALL the slack out of the springs. Move assembly toward the front or back of the vehicle to align springs with lower "A" frame suspension arm. (DO NOT TRY TO EXTEND SPRINGS NOW.)
7. Tighten fulcrum assembly bolts firmly to suspension arms by tightening each bolt a little at a time until top-hanger plate bends down in arm.
8. Run eyebolt nuts up on fulcrum bar until eye is snug to face of fulcrum bar.

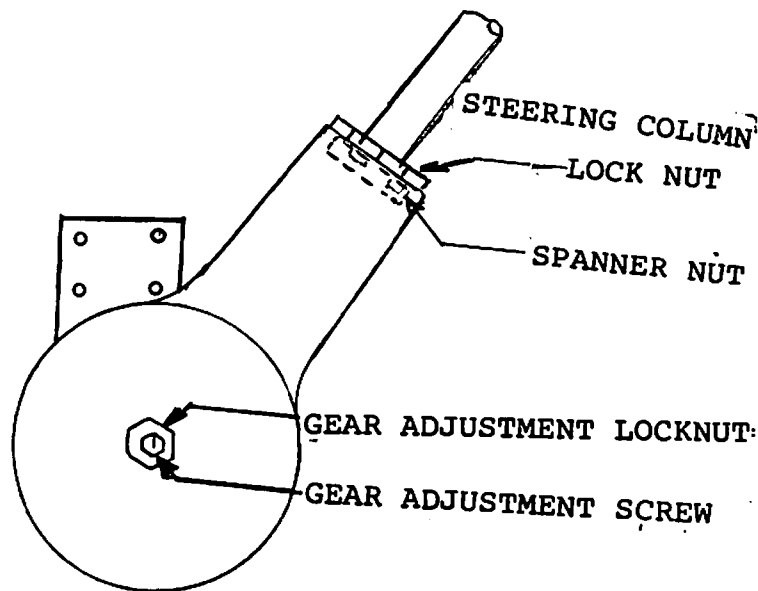
**STEER SAFE, INC.**

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**Steer Safe,** INC.

INSTRUCTIONS FOR  
ADJUSTING GEAR-BOX

1. LOOSEN GEAR ADJUSTMENT LOCK NUT.
2. BACK OUT GEAR ADJUSTMENT NUT 3 TO 4 TURNS.
3. REMOVE STEERING COLUMN LOCK NUT.
4. TIGHTEN SPANNER NUT WHILE ANOTHER PERSON ROTATES STEERING WHEEL BACK AND FORTH.
5. BACK OFF SPANNER NUT  $1/4"$ .
6. REPLACE STEERING GEAR LOCK NUT AND TIGHTEN.
7. RUN GEAR ADJUSTMENT SCREW IN TIGHT AND THEN BACK OUT UNTIL A SLIGHT RESISTANCE IS FELT.
8. TIGHTEN LOCKNUT WHILE HOLDING SCREW IN PLACE.



NOTE:    PLEASE CHECK PITMAN ARM THAT RUNS FROM  
GEAR-BOX TO STEERING KNUCKLE FOR LOOSENESS  
AND THE IDLE BRACKET.