

# **GRAVELY** OPERATOR'S CLARKE-GRAVELY CORPORATION A Studebaker-Worthington Company

# MANUAL

**NAME:** 30 INCH ROTARY MOWER

**PART NUMBER(S):** Drive - 22531  
Deck (single blade) - 23075  
Deck (twin blade) - 23076

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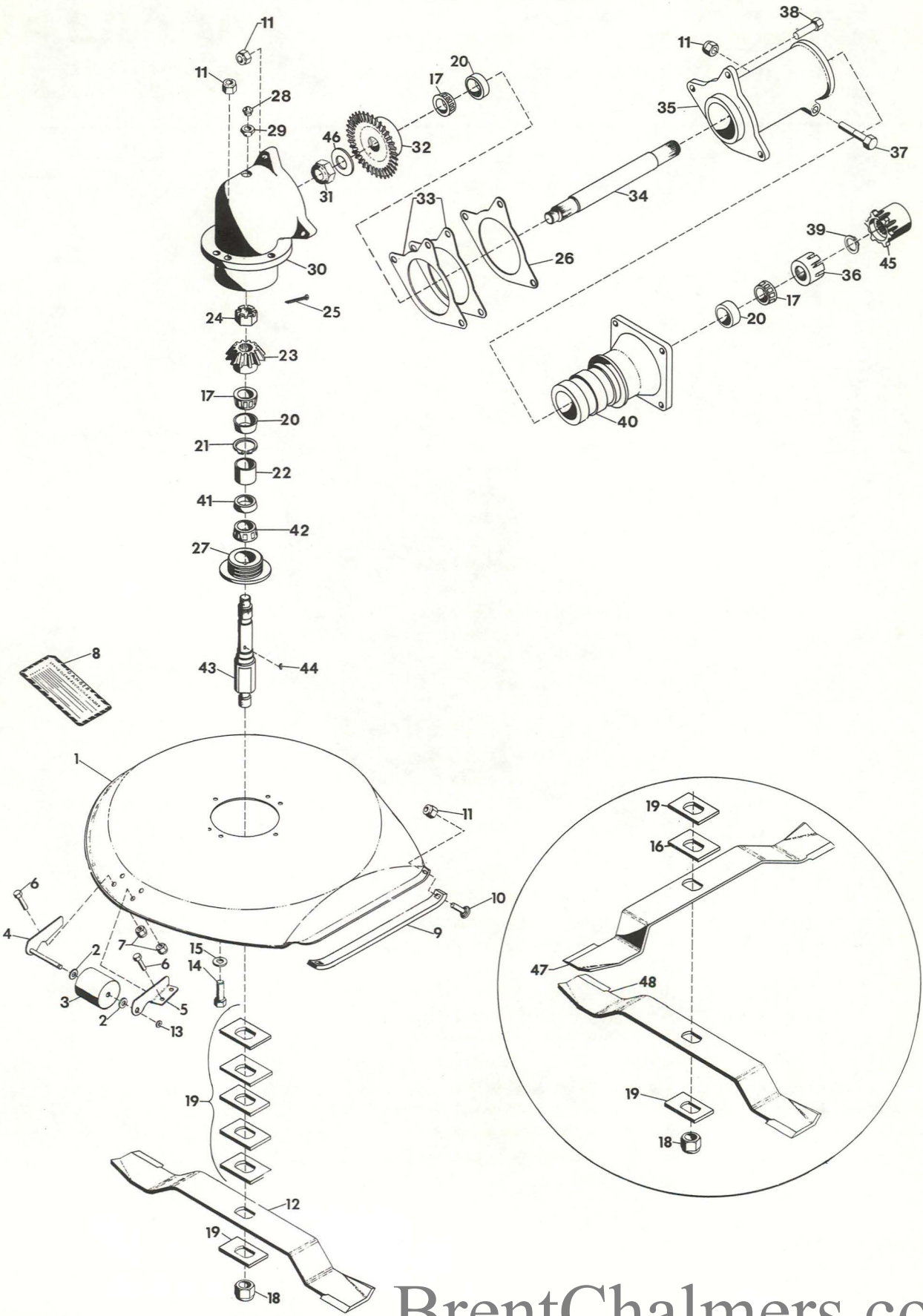


The 30 Inch Rotary Mower is designed and built to be used with the Gravely two wheel tractors.

To attach the 30 Inch Rotary Mower to a Gravely tractor manufactured before serial number 290130 an attachment adapter kit is required. See your Gravely Dealer for further information.

The Operator's Manual includes safety instructions, illustrated parts list, operation and maintenance.

30 IN ROTARY MOWER DECK 3/8 IN BLADE  
30" ROTARY MOWER DRIVE



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<u>ITEM NO.</u>	<u>PART NO.</u>	<u>QTY.</u>	<u>DESCRIPTION</u>
1	23074	1	Deck, 30 In. Rotary Mower
2	421879	2	Washer, Flat; .656 x 1.250 x .100
3	15351	1	Roller, Gage
4	21400	1	Weldment, Bracket
5	21399	1	Bracket, Wheel L.H.
6	180077	4	Bolt, Hex; 5/16-18 x 3/4
7	419455	4	Nut, Lock; 5/16-18 Washer Insert Hex
8	18549	1	Decal, Danger
9	23073	2	Skid, Rotary Mower
10	120917	4	Bolt, 1/2-13 x 1-1/2 RD HD SQ NK
11	435507	14	Nut, Lock; 1/2-13 Washer Insert
12	22528	1	Blade, Rotary Mower; 3/8
13	21396	1	E-Ring; .625 Shaft
14	180177	6	Bolt, Hex; 1/2-13 x 1-1/2
15	120390	6	Washer, Flat; 9/16 x 1-3/8 x .109
16	22527	1	Spacer, Cutting Height Thin (1/8)
17	9246	3	Cone, Roller Bearing
18	17313	1	Nut, Lock; ESNA 7/8-9 Heavy Thin
19	22526	6	Spacer, Cutting Height (1/4)
20	9245	3	Cup, Roller Bearing
21	22525	1	Ring, Retaining; 2.000 Bore
22	22521	1	Spacer; 1.75 x 1.936 x 1.967
23	22519	1	Pinion, Bevel
24	125267	1	Nut, Slotted; 5/8-18 Hex
25	119120	1	Pin, Cotter; 3/32 x 1-1/4
26	23081	1	Shim, .020
27	22522	1	Seal
28	271434	1	Fitting, Lube; 1/8 Pipe Taper Drive
29	144044	1	Bushing, Reducing; 1/2 Pipe
30	22513	1	Housing, Gear
31	13412	1	Nut, Lock; 5/8-18 L. T.
32	22518	1	Gear, Bevel
33	23082	2	Shim, .005
34	22517	1	Shaft, Drive
35	22514	1	Casting, Swivel
36	22516	1	Dog, Attachment
37	180191	1	Bolt, Hex; 1/2-13 x 3-1/4
38	180179	3	Bolt, Hex; 1/2-13 x 1-3/4
39	22242	1	Ring, Retaining; .937 Shaft
40	22515	1	Housing, Shaft
41	22524	1	Cup, Bearing
42	22523	1	Cone, Bearing
43	22520	1	Shaft, Rotor
44	271089	1	Key, Woodruff; .125 x .375 Hard
45	21343	1	Dog, Attachment
46	131016	1	Washer, Flat; .656 x 1.312 x .095
47	22530	1	Blade, 30" Mower; Thin Cross Slot
48	22529	1	Blade, 30" Mower; Thin

## SAFETY OPERATING PRACTICES 30 INCH ROTARY MOWER

Proper maintenance is important to the safe operation of all equipment. This mower is no exception. The operation and maintenance suggestions contained in this manual are effective methods for operating and servicing this mower.

Improper use of this mower can result in damage to the equipment or severe personal injury. Persons operating and maintaining this equipment must read these manuals completely and be required to practice these safety precautions and pay attention to the job being done.

It is important to understand that the warnings in this manual are not all inclusive. It is not possible for Gravelly to know, evaluate and advise operators and servicing personnel of all the possible hazardous consequences of operating and servicing this mower. Accordingly, any person operating or servicing this mower in a manner not expressly recommended by Gravelly must first satisfy themselves that their safety, the safety of others and equipment safety are not jeopardized by the method of operation or service elected.

### TRAINING

1. Read the tractor and mower operator's manuals carefully before operating or servicing. Be thoroughly familiar with the equipment. Know how to stop the mower blade and how to operate the tractor controls quickly.
2. Never allow children to operate the equipment. Never allow adults to operate the equipment without proper instructions.
3. Keep area of operation clear of all persons. Small children and pets are especially difficult to see. Never direct the mower discharge toward bystanders or allow anyone in front of the equipment.
5. Do not wear loose fitting clothing or accessories that might get caught in moving parts or on the controls. Keep hands, feet, hair clothing, etc., away from moving parts. Always wear substantial footwear and eye protection. Do not wear open sandals or canvas shoes.
6. Before leaving the operator's position, STOP the engine and disengage the mower drive by placing the PTO lever in the OUT position, remove key on riding tractors, lower the mower and set parking brake.

### PREPARATION

1. Thoroughly inspect the area where the equipment is to be used and remove all stones, glass, metal, bones, sticks, wires and the like. Stay alert for holes and hidden hazards.
2. Disengage all clutches before starting the engine. This is done by placing the PTO lever in the OUT position and the forward-reverse in the mid or neutral position.
3. Never make any adjustments to the mower while engine is running.
4. Do not put hands or feet near rotating parts.

### OPERATION

1. Never attempt to make any adjustments while engine is running.
2. Never operate the equipment without good visibility and light.
3. Handle fuel with care, it is highly flammable.
  - (a) Do not smoke while handling fuel.
  - (b) Use approved fuel container.
  - (c) Never add fuel to a running engine or hot engine.
  - (d) Fill fuel tank outdoors with extreme care. Never fill fuel tank indoors.

- (e) Replace gasoline cap securely and wipe up spilled fuel.
  - (f) Always fill electric start tractors with tractor hood in the closed position.
4. Be sure the path is clear of people, pets, and obstructions especially when backing.
  5. Do not operate equipment except from proper operator's position.
  6. Keep safety devices and shields in place at all times.
  7. Persons must never accompany the operator.
  8. Always disengage the mower drive by placing the PTO lever in the OFF position when the attachment is not in use, when crossing pavement or barriers and before leaving operator's seat or position.
  9. Use extreme caution when operating on slopes. Reduce speed on all slopes and sharp turns. Exercise extreme caution when changing directions on slopes.
  10. Walk-behind tractors mow across the face of slopes. DO NOT mow excessively steep slopes.
  11. If an object is struck, STOP the engine and put the PTO in the OFF position before inspecting for damage. Any damage must be repaired before restarting the equipment.
  12. Before cleaning, repairing, or inspecting, make certain the blade and all moving parts have stopped. Remove the key and disconnect the sparkplug wire to prevent accidental starting.
  13. If the mower should start to vibrate abnormally, immediately STOP the engine, disengage the PTO, and check for the cause. Abnormal vibration is generally a warning of trouble. If unable to locate cause, obtain qualified service assistance.
  14. Do not run engine indoors, except when starting engine and for transporting equipment in or out of building. Open outside doors to insure proper ventilation.
  15. Always operate the tractor in lower gears when on slippery surfaces.
  16. Always be sure of your footing; keep a firm hold on the handles and walk, never run. Never operate the equipment in wet grass.

## MAINTENANCE AND STORAGE

1. Always maintain the equipment as specified in the product literature. Keep it in good repair and inspect regularly.
2. Inspect the drive system for wear and damage regularly.
3. To reduce fire hazard, keep the mower free of grass, leaves or excessive grease and oil.
4. Check the blade mounting bolts for proper tightness at frequent intervals.

## OPERATION

Read the tractor Operator's Manual and become familiar with its operation. Know how to operate the controls and their function.

### ATTACHING MOWER TO TRACTOR

1. Slide the attachment dog onto the splined PTO shaft of the tractor. See fig. 1.

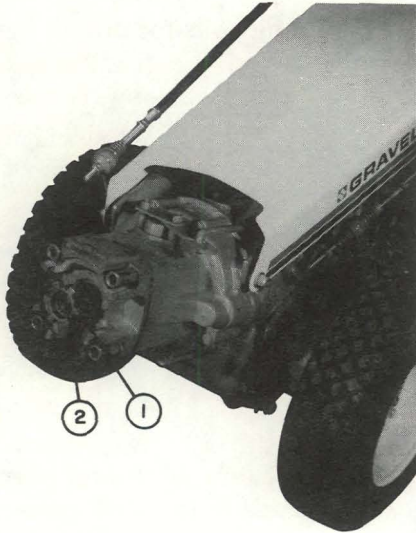


Fig. 1

- 1 — Attachment Dog
- 2 — Splined PTO Shaft

2. Bolt the mower to the attachment adapter of the tractor with the four attachment bolts. See fig. 2.

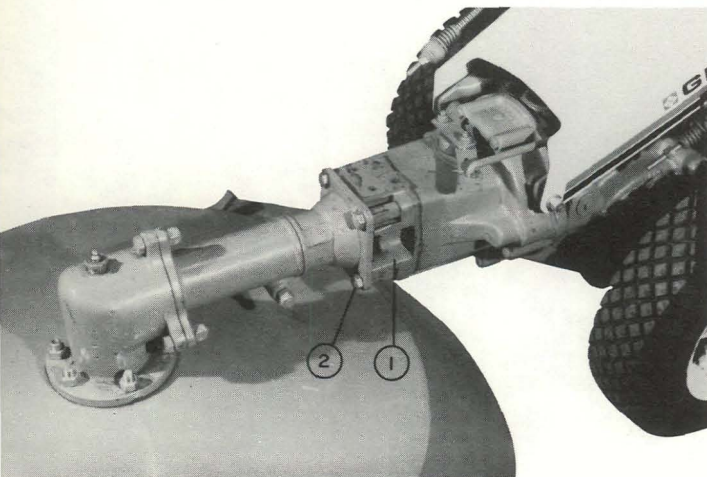


Fig. 2

- 1 — Attachment Adapter
- 2 — Attachment Bolts

## GROUND SPEED

The HI/LO range selector affects the ground speed and the PTO R.P.M. speed.

The Swiftamatic gear selector affects the ground speed only.

Vary the gear and range selections to find the optimum ground speed for the mowing job.

### OPERATING THE MOWER AND TRACTOR

1. With all controls in neutral, start the tractor engine and allow a few minutes for the engine to warm up.
2. Put the Swiftamatic gear in "LOW" if so equipped.
3. Engage the PTO.
4. Move the throttle lever to "FAST".
5. Put the HI/LO range in "LO".
6. Engage the direction control lever in the forward position on the tractor and mow a short distance, about 10 feet (3 m). Stop the motion of the tractor by moving the direction control to the neutral position., disengage the PTO control and stop the engine.
7. Check to see that the mower is adjusted to give the desired cutting height. SEE HEIGHT ADJUSTMENT if further cutting adjustment is necessary.
8. Operate tractor and mower in the open without obstructions using a slow ground speed until you become familiar with the operation of the tractor and mower.
9. After you have become familiar with the operation of the tractor and mower, choose the desired speed for your mowing conditions.

## CUTTING HEIGHT ADJUSTMENT

The cutting height of the mower is determined by the placement of the cutting height spacers above or below the blade(s).

Each cutting height spacer will raise or lower the blade(s) in 1/4" (6.4 mm) increments. The twin blade assembly has a 1/8" (3.2 mm) spacer and this spacer must be installed above the twin blades.

If the desired cutting height is unknown, place three 1/4" cutting height spacers below the blade(s), this will give an average cutting height. Re-adjust if necessary.

Always re-install all the cutting heights spacers. At least one 1/4" cutting height spacer must be between the nut and blade(s).

When replacing the nut, torque the nut to 100 ft. lbs. (135 Nm).

## SWIVEL ADJUSTMENT

The swivel action of the mower is regulated by the nut and bolt on the swivel casing. See fig. 3. Loosening the nut allows mower swivel action and tightening reduces the action. The swivel action should be only loose enough to allow the mower to follow ground contour.

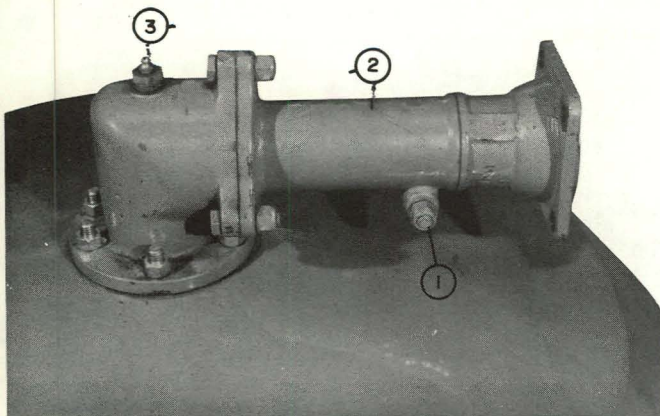


Fig. 3

- 1 — Swivel Adjustment
- 2 — Swivel Casting
- 3 — Grease Fitting

## REMOVING MOWER FROM TRACTOR

1. Remove the four attachment bolts securing the mower to the attachment adapter of the tractor and remove the mower. See fig. 2.
2. Remove the attachment dog from the splined PTO shaft of the tractor to prevent loss.

## MAINTENANCE

1. Inspect the blade(s) and replace the blade(s) if it appears to be damaged. Check the blade(s) for sharpness before each use. To prevent a ragged cut, sharpen when the blade(s) become(s) dull. Balance the blade(s) after sharpening. When installing the blade(s), torque the nut to 100 ft. lbs. (135 Nm).
2. Check all nuts, bolts and other fasteners to insure tightness. Tighten if necessary and replace any that are missing.
3. Lubricate the gearbox through the grease fitting on top with a grease gun and general purpose grease every 40 operating hours. Add grease until it comes out around the rotor shaft under the mower deck. See fig. 3.



## ATTACHMENT LIMITED WARRANTY

This Limited Warranty is issued by Clarke-Gravely Corporation, Gravely Division, and consists of the following terms:

1. Only the original purchaser of new Gravely manufactured attachments is covered by this Warranty.
2. This Warranty covers repair or replacement of parts manufactured by Gravely which are defective in material or workmanship. Gravely will pay for parts and labor only.
3. The Warranty starts the date of purchase and lasts for NINETY (90) DAYS for attachments used in Rooper applications, and TWELVE (12) MONTHS for products used in all other applications.
4. Some components of Gravely attachments are not covered by the Gravely Warranty. These components are covered by the original manufacturer's warranty. They are:
  - (a) Tires - Goodyear, Goodrich, Armstrong, General and Firestone
5. To obtain warranty service on Gravely attachments including components not manufactured by Gravely, use this procedure:
  - (a) Notify the Gravely dealer from whom you purchased the attachment.
  - (b) If you have moved and it is not convenient to notify the selling dealer, notify the nearest Gravely dealer. You should supply this dealer with a copy of the bill of sale as proof of the date of purchase.
  - (c) Make arrangements to have the attachment delivered to the dealer (refer to paragraph 6(a) below).
  - (d) If you have any questions concerning the Gravely Warranty, they should be referred to:

Gravely  
Clarke-Gravely Corporation  
A Studebaker-Worthington Company  
One Gravely Lane  
Clemmons, N. C. 27012  
Attn: Manager of Customer Services
  - (e) Warranty service on Gravely attachments must be performed by an authorized Gravely dealer or Gravely factory branch.

6. This Warranty does not cover the following:
  - (a) Transportation between owner's home or place of business and the dealership. If the dealer provides the transportation of the attachment, he will charge the owner his usual rate for such service.
  - (b) Normal maintenance services and normal replacement of items such as belts lubricants, mower, plow or cultivator blades.
7. GRAVELY MAKES NO OTHER EXPRESS WARRANTIES. ANY IMPLIED WARRANTIES, INCLUDING WARRANTIES AS TO MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED IN DURATION TO THE PERIOD SET OUT IN PARAGRAPH 3 ABOVE. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE STATEMENT MAY NOT APPLY TO YOU.
8. GRAVELY SHALL HAVE NO RESPONSIBILITY FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE BREACH OF ANY WARRANTY, INCLUDING, BUT NOT LIMITED TO, INCONVENIENCE, RENTAL OR PURCHASE OF REPLACEMENT EQUIPMENT, LOSS OF PROFITS OR COMMERCIAL LOSS. SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.
9. This Warranty gives you specific legal rights, and you may have other rights which vary from state to state.
10. A Gravely registration card is supplied with each Gravely attachment. Please complete the card and return it to Gravely at the address listed on the card. The registration card will be used by Gravely for:
  - (a) Recording date of purchase.
  - (b) Notification of owners in compliance with the Consumer Product Safety Act, should any notification be necessary.The return of registration card is not required in order to take advantage of this Warranty.
11. This Warranty is not subject to change or modification by anyone, including Gravely dealers and no Gravely dealer is authorized to make any representations or promises on Gravely's behalf.

