



Owner's Manual

Model Numbers:

TMC-200

MINI-CULTIVATOR

Date 09-07-01



TMC-200

Supplier To The Outdoor Power Equipment Industry

ISM, Inc. • 1028 4th Street SW • Auburn, WA 98001 • Phone: (253) 333-1200 • Fax: (253) 333-1212

This mini-cultivator has been developed as an attachment for Tanaka brush cutters. With the application of this unit your brush cutter can be converted into compact and handy tilling machine. Installation is simple. Please read this manual for installation and starting job.

I. ASSEMBLING PROCEDURES

NOTE: Prepare two 10mm wrenches for assembling.

1. First, remove gear case assembly from your brush cutter by removing pipe tightening screws (1) and pipe lock screw (2), then remove safety cover of brush cutter. (Fig. 1)
2. Install safety cover (3) and the collar (4) of Mini-cultivator by insetting onto shaft pipe (5) and fix it temporarily keeping the model name on the cover upright.(Fig.2)

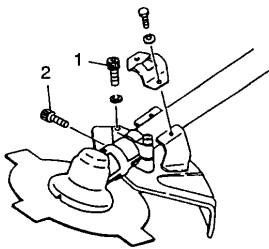


Fig. 1

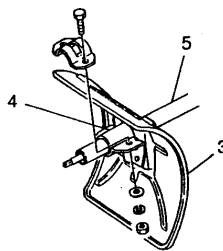


Fig. 2

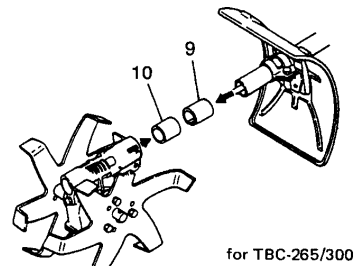
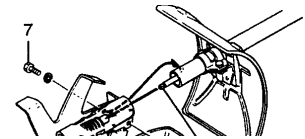


Fig. 3

3. Install Mini-cultivator unit onto the pipe end where gear case has been removed from by aligning drive shaft (6) and squared or splined hole in gear case. If drive shaft does not fit into the hole, try to turn the whole unit slightly right and left. (Fig. 4)
4. Once the unit is completely inserted, meet the locking hole of pipe and that of gear case, tighten the lock screw (7) in the hole and pipe tightening screws (8) in order. (Fig. 4)



NOTE: After installation, you can not turn tines by hand due to its worm gear mechanism.

5. Finally secure the safety cover a minimum of 2 in. from the gear case.

NOTE: If your unit is model TBC-265 which has larger sized shaft pipe, remove the bracket collar (9) and gear case collar B (10) and install. (Fig. 3)

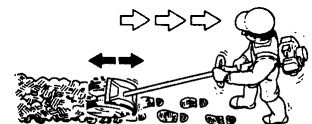


Fig. 5

II. OPERATING PROCEDURES

1. As to general safety operation and power head operation such as engine starting/shut off, etc, please refer to the owners manual provided with your Tanaka brush cutter.
2. How to till:
 - a. For standard tilling. Walk forward as pulling and pushing the unit little by little like using a vacuum cleaner. (Fig. 5) When you want to erase your foot-prints, pull the unit backwards. (Fig. 6)

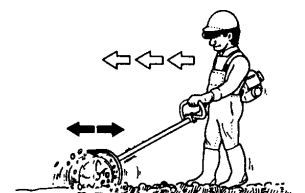


Fig. 6

- b. For shallow tilling, move the unit quickly over soil surface. (Fig. 7) For deeper tilling, hold the unit over the same area with the gentle back and forth motion. (Fig. 8)

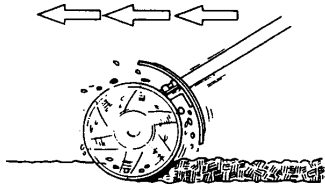


Fig. 7

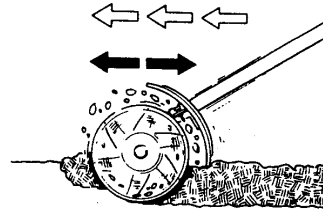


Fig. 8

NOTE:

- Working throttle position depends on your size of engine and tilling depth but half way open is standard. If tines rotate too fast, the unit is likely to hop.
- Do not work in rocky area. If the tines jammed with rock or hard soil, or tangled around with long grasses, shut off engine first, then remove the obstruction. (Fig. 9)

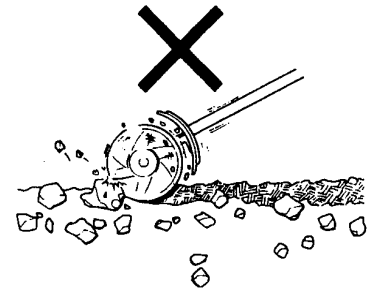


Fig. 9

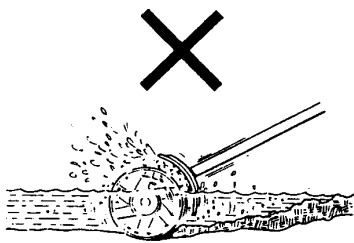


Fig. 10

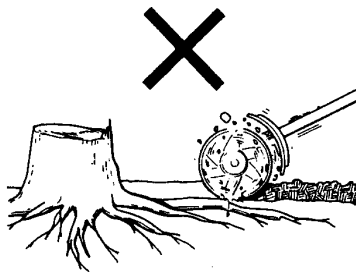


Fig. 11

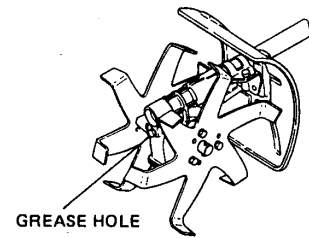
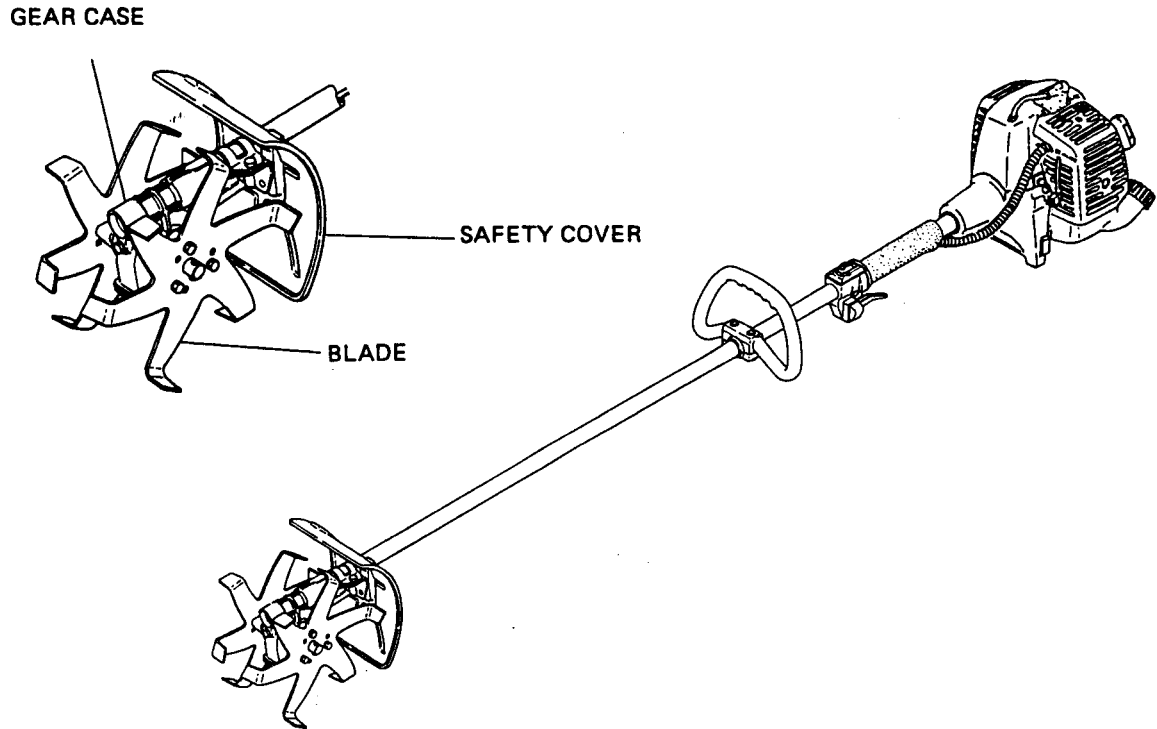


Fig. 12

- Do not use the unit in water or rooted, vine area. (Fig. 10 & 11)
- The tines are pre-assembled at factory, when reassembling them, be aware of their direction.
- Do not touch the gear case with bare hand right after operation. It gets hot.
- Supply proper amount of lithium-based grease, such as Shell Aluvania grease R2, Shell Aluvania EP grease 2, Mobile-Mobilux EP2 or equivalent after every 25 hours of use. (Fig. 12)
- When reassembling, be sure to use 40grams of molybdenum added lithium-based grease or Shell Retinax AM or equivalent.

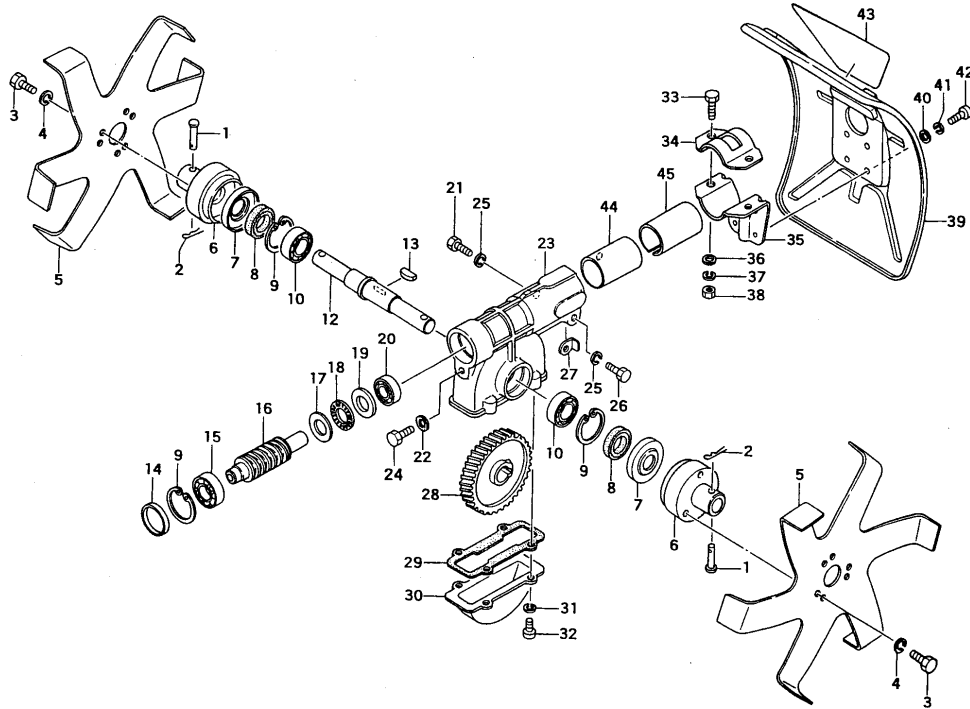
MAJOR PARTS

Illustration of brush cutter side may change according to you unit.



APPLICATIONS:

MODEL	TANAKA BRUSH CUTTER
TMC-200 (For spline end drive shaft)	TBC- 2211/2501/2510/270PF/PN/300/3010/4500/4501/220/220SS/240/250/265/300 AST-210/7000/7000S, SUM-321E/4001500 (QUM-221, after serial # G182721) (SUM-318, after serial # M211775/SUM-328, after serial # J085451) (SUM-422, after serial # N089844) (TBC-321/355/355SDH, SUM-368, after serial N168643)



Ref. Number	Parts Number	Description	Qty	Ref. Number	Parts Number	Description	Qty
001	400-39907-20	LOCK PIN	2	024	990-21060-121	BOLT 6X12	1
002	ASP-100	SNAP PIN 8	2	025	992-10060-012	S.WASHER 6	1
003	990-21060-121	BOLT 6X 12	6	026	990-21060-251	BOLT 6X25	1
004	992-10060-012	S.WASHER 6	6	027	249-0630G-20	SPACER	1
005	820-39907-20	CUTTER	2	028	301-39909-20	GEAR WHEEL	1
006	310-39907-20	CUTTER HOLDER	2	029	318-39907-20	GEAR CASE GASKET	1
007	307-39907-20	PROTECTION COVER	2	030	323-39907-20	GEAR CASE COVER	1
008	999-66152-863	OIL SEAL 15286	2	031	992-10050-012	S.WASHER 5	4
009	993-51028-002	STOP RING 0-28, INNER	3	032	990-11050-101	SCREW 5X10	4
010	999-61690-200	BALL BEARING 6902,28MM/OD	2	033	990-21060-181	BOLT 6X 18	2
012	304-39907-20	DRIVE SHAFT	1	034	442-33671-20	COVER BRACKET, 26 DIA.	1
013	120-32201-20	WOOD-RUFF KEY 5X22X7X14	1	035	445-39907-20	SAFETY COVER HOLDER	1
014	322-39907-20	GEAR CASE CAP	1	036	992-00060-011	SMALL WASHER 6	2
015	999-61600-101	BALL BEARING 600IZZ, 28MM/0	1	037	992-10060-012	S.WASHER 6	2
016	002-33130-20	WORM SHAFT	1	038	991-01060-011	NUT 6	2
017	999-62122-669	THRUST WASHER 1226	1	039	441-39907-20	SAFETY COVER	1
018	999-62122-668	THRUST NEEDLE BRG 2X4.5	1	040	992-01050-011	WASHER5	4
019	321-39907-20	STEP WASHER	1	041	992-10050-012	S.WASHER 5	4
020	999-61690-101	BALL BEARING 6901ZZ, 24MM/OD	1	042	990-11050-141	SCREW 5X14	4
021	990-21060-121	BOLT 6X12	1	043	906-39909-20	NAME PLATE, TMC200	1
022	727-01040-20	DRAIN GASKET	2	044	348-33130-20	COLLAR B	1
023	300-39909-20	GEAR CASE	1	045	294-39909-20	COLLAR	1

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