# ENGINE WINCHES from 300 to 5000 kg - TS and TD Series



# **INSTRUCTION MANUAL**

START-UP AND MAINTENANCE

In an endeavor to improve its products, HUCHEZ reserves the right to alter the equipment described herein, and to supply it, in this case, different to the illustrations or specifications in this manual.

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#### 1) General warning

**¤** Before using this winch, to ensure it is used safely and effectively, it is vital for you to become familiar with this instruction manual and comply with all its recommendations.

¤ This instruction manual must be kept available for all operators. The manufacturer shall provide additional copies if requested.

**¤** The TS and TD Series winches can be used to perform pulling operations. Please ensure that the operator is qualified to operate it under the conditions laid down in this manual. This is to respect the safety of workers and the environment.

¤ Never use this winch with a load exceeding the working load limit specified.

<sup>a</sup> Before each use, the operator shall check that the machine, its ropes, its hook, its markings and its restraints are in good condition.

<sup>a</sup> The manufacturer accepts no responsibility for consequences due to the machines being used or installed in ways other than described in the manual, or for the consequences of altering or replacing original parts or components with parts or components from other sources without its written agreement.

#### 2) Introduction to the machines

The TS and TD Series engine winches are pulling machines manufactured in accordance with current rules and recommendations.

#### 2.1) Technical description

¤ Mechanically welded frame.

<sup>a</sup> Mechanically welded steel drum with wide flanges allowing the rope to be attached safely and rationally.

¤ 4.2 to 8 HP petrol or diesel engine.

¤ Disc brake.

- ¤ Single-lever control with safety device.
- ¤ End limit switches (except with diesel)

### 2.2) Dimensions (300 to 1500 kg)



# 2.3) Dimensions (2000 to 5000 kg)

Туре	В	С	ØD	L	G	М	E.	J	Н
2000 TS 6	76 79753-2597	TANKINA	20	4:07:09		23 2522396	10126	10 10 10 10 10 10 10 10 10 10 10 10 10 1	22518
2500 TS 5	1170	1000	323,9	560	1100	550	35	77,5	23
3000 TS 4			s 12		5	s			
2000 TD 4									
2500 TD 3	1170	1000	323,9	560	1100	550	35	77,5	23
3000 TD 3									
5000 TS 3	1170	1000	222.0	500	1100	770	25	77 5	22
5000 TD 3	1170	1050	323,9	590	1100	550	35	(7,5	23
						2			
	Tom	hour long	. COO	Tam	have land	. 200	Tom	ممرما مبيرهما	000
	i airi	Dogi jour	1000	Tarr	μου πουα	3 200	Tarr	ibour iong	900
Туре	A	F	1000 K	A	F	1300 K	A	F	900 900
Type 2000 TS 6	A	F	K	A	F	K	A	F	900 K
Type 2000 TS 6 2500 TS 5	A 1375	725	303	A 1075	F 425	K	A 1675	F 1025	900 K 453
Type 2000 TS 6 2500 TS 5 3000 TS 4	A 1375	F 725	303	A 1075	F 425	K	A 1675	F 1025	900 K 453
Type 2000 TS 6 2500 TS 5 3000 TS 4 2000 TD 4	1375	725	303	1075	425	K	1675	F 1025	900 K 453
Type 2000 TS 6 2500 TS 5 3000 TS 4 2000 TD 4 2500 TD 3	A 1375 1375	725 725	303 303	1075	425 425	K	1675	1025 1025	453 453
Type 2000 TS 6 2500 TS 5 3000 TS 4 2000 TD 4 2500 TD 3 3000 TD 3	1375 1375	725 725	303 303	1075	425 425	X X	1675	F 1025 1025	453 453
Type 2000 TS 6 2500 TS 5 3000 TS 4 2000 TD 4 2500 TD 3 3000 TD 3 5000 TS 3	A 1375 1375	725 725	303 303	1075	425 425	K K	A 1675 1675	F 1025 1025	453 453

00









#### 2.4) Models available

S : Essence	(petrol) -	D : Diesel
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	Force	Vitesse	Moteur (CV)	Ø câble	Capacité
Type	kg	m/min	Ess. Diesel	mm	т
туре	Capacity	Speed	Engine (CV)	Rope diam.	Rope lenght
	kg	m/min	Petrol Diesel	mm	т
300 TS 34	370	34.3	6	5.00	330
300 TD 28	346	28.0	4.2	5.00	330
500 TS 24	522	24.3	6	6.80	250
500 TD 16	578	16.8	4.2	6.80	250
750 TS 16	758	16.8	6	8.00	215
750 TD 13	745	13.0	4.2	8.00	215
1000 TS 12	1021	12.4	6	8.00	215
1000 TD 8	1178	8.2	4.2	8.00	215
1600 TS 8	1615	7.9	6	11.50	160
1500 TD 6	1510	6.4	4.2	11.50	160
2000 TS 6	2060	6.2	6	11.50	235
2000 TD 4	2377	4.1	4.2	11.50	235
2500 TS 5	2713	4.7	6	13.00	210
2500 TD 3	2536	3.8	4.2	13.00	210
3000 TS 4	3106	4.1	6	15.80	180
3000 TD 3	3402	2.9	4.2	15.80	180
5000 TS 3	5794	3.1	8	18.00	160
5000 TD 3	5874	3.2	7.6	18.00	160

#### 2.5) Accessories



Les treuils peuvent être fournis avec câbles et accessoires. The winches can be supplied with ropes and accessories.

#### 2.6) Operation

A single, practical, safe control: a single control lever is used for raising and lowering or for pulling the load, always connected to the engine. When the operator releases the lever, it automatically returns to braked stop position.

An adjustable top and bottom limit switch can be used to halt the winch at the desired position. This device cannot be installed on the diesel winches, and, on the petrol winches, only the 300, 500 and 750 kg can receive it.

#### 3) Handling - Storage

The slinging points are marked on the winch.

These winches must be protected from the elements, at temperatures comprised between  $-10^{\circ}$ C and  $+50^{\circ}$ C.

#### 4) Installation and startup

#### 4.1) Fixing the winch

The machine must be fixed to a flat surface. Tighten the fixing bolts correctly (see tables § 2.2 and 2.3) onto the supports calculated and checked to easily withstand the loads to be lifted or pulled.

#### 4.2) Advice and recommendations advice for use

#### Measuring the rope diameter :



with slide caliper



Incorrect measurement

Unwinding of the rope on its reels :



**CORRECT** :

#### **INCORRECT**

<u>Winding of the rope on the drum :</u> Tension the rope and wind it around the drum in close joining coils. Check the winding direction of the rope according to the engine connection.



8/20

#### 4.3) Engine

Please refer to the manufacturer's manual for servicing and operation.

# 4.4) Adjusting the limit switch (except with diesel) for 300, 500 and 750 kg petrol models only

Remove the protective cover of the device (inside this cover you will find the diagram below). The levers, which are now accessible, can be turned manually.

#### Adjustment of the winding stop point:

Wind the rope to the maximum desired winding point. Stop the winch. Still in this position, manually move the red lever (2) to the lowest position of the rotation circle, where it activates the switch (3)

#### Adjustment of the unwinding stop point:

Unwind the rope to the maximum desired unwinding point. Stop the winch. Still in this position, manually move the black lever (1) to the lowest position of the rotation circle, where it activates the switch (3)



#### 4.5) Working rope

Warning: the direction of rotation of the drum depends on the direction in which the control lever is moved.

Reminder: check the maximum capacity of the winch (see Models available § 2.4).

#### Very important:

Safety regulations require 2 to 3 coils of rope to be left on the drum at all times. To comply with the legislation, the rope should not exceed the recommended diameter.

Make sure the rope and hook used guarantee a coefficient 5 safety level if they were not supplied by the manufacturer with the machine.

#### Winding:

Tension the rope and wind it around the drum in close joining coils.

Check the winding direction of the rope.

#### 5) Servicing and maintenance

#### 5.1) Before starting up, check the following

- ¤ The oil level of the reduction gear.
- ¤ The oil level of the engine.
- ¤ The fastening of the rope on the drum.

#### 5.2) First start-up

At the start of the installation, you are advised to observe a running-in period at <sup>3</sup>/<sub>4</sub> of the load **for approximately thirty hours**.

The rated force is obtained after this running-in period.

The whistling noise of the gears will disappear after this running-in period.

#### 5.3) Lubrication

Every 100 hours:

- ¤ Check the oil level of the reduction gear.
- ¤ Coat the gears with grease after removing the protective covers.

Every 500 hours:

¤ Drain the reduction gear or gears.

Our reverser reduction gears are filled with MOBIL Glygoy LE 30 oil. Use mainly the same brand when topping up. Our secondary reduction gears are filled with ESSO Glycolub Range 220 mineral oil.

#### Very important.

If the oil is changed after draining, rinse the casing of the reduction gear thoroughly.

#### 5.4) Rope

Check the state of the rope, the hook and its safety catch. If the rope and the hook are not supplied by the manufacturer, check that they guarantee a coefficient 5 safety level. Check the snatch block fastening points on a regular basis.

#### 5.5) Disc brake adjustment



Le réglage du frein étant effectué en nos ateliers au cours des essais de charge, il n'y a pas lieu de s'en inquiéter à la mise en route de l'appareil.

Néanmoins, après un usage prolongé ou intensif de l'appareil, il peut s'avérer que le freinage devienne insuffisant.

#### In this event, proceed as follows:

First, reset the play "J" to 7 mm. If after several adjustments, the nut "A" arrives at the end of the rod "G", **proceed as follows**:

- 1- Take the cover off the brake by removing the 3 blind nuts.
- 2- After making sure the lining still has a thickness of **over 1 millimeter**, proceed as follows; otherwise change the lining disc.
- 3- Unscrew the screw "F" so as to release the connecting rod "C" from the cam "E".
- 4- Bring the connecting rod "C" to the horizontal position, keeping the cam "E" in contact with the plate "D". During this operation, the plate "D" must stay in contact with the linings.
- 5- Maintaining this position, retighten the screw "F" and secure it.
- 6- Adjust the play "J" to 7 mm.
- 7- Before putting the cover back on, make sure the plate "D" is released all over when operating the winch control lever. If not, use the nuts to adjust the compression of the springs, taking care not to compress them too much.

#### 6) What not to do

Before using the winch, make sure there is no risk of overloading due to adherence to the floor, suction, jamming, etc.

Do not carry out any of the incorrect uses or operations which are prohibited below: It is prohibited:

•

- ¤ To lift loads exceeding
- ¤ To pull loads exceeding the nominal load specified on the plate of the machine
- ¤ To unwind the drum completely (always leave 2 to 3 coils)
- ¤ To pull sideways
- ¤ To walk under the load

**¤** To use ropes with a diameter and texture that do not comply with the specifications of this manual (coefficient 5)

¤ To use damaged or spliced ropes

¤ To use hooks without catches, not suitable for the loads specified on the machine or in bad condition

- ¤ To insert objects into the moving parts
- ¤ To service loaded machines
- ¤ To use the rope of the machine as a sling
- ¤ To use the machines for tasks different from those for which they are intended
- ¤ To use the machines at temperatures lower than 10°C or greater than 50°C.

#### 7) Compulsory regulatory inspections by the user

This equipment has been designed to be subjected to the following tests:

pynamic proof test at coefficient 1.1
Static proof test at coefficient 1.25

The tests must be performed in strict observance of protocol. They aim to provide preventive maintenance, detecting any damage or faults that can create a risk.

#### **Maintenance** log

HUCHEZ winches are supplied with a maintenance log.

#### 8) Decommissioning

Once the equipment has reached an age at which it may pose hazards, the user is obliged to dispose of the equipment, i.e. taking it out of operation and dismantling it if required.

#### 9) Ordering spare parts

When ordering spare parts and with a view to fulfilling your needs as quickly as possible and ensuring you get the best from our services:

Please provide the following information with your order:

¤ Type and capacity of the winch (on the data plate).

<sup>a</sup> The number and year of manufacture (on the data plate).

<sup>a</sup> The number or name of the required parts (exploded views).

¤ Particularly for the worm and hollow wheel of the reduction gears, the ratio engraved on these parts.

¤ In certain cases, for the gears of the reduction gear, the number of teeth.

Seals can only be supplied in complete sets.

# 10) Appendixes



# 10.1) 2815 brake reduction gear reverser (300 to 1500 TS-TD)

# 2815 brake reduction gear reverser (300 to 1500 TS-TD)

Item	Reference	Name
1	4536	Drive pulley W617
1	4147	Drive pulley E 673
2	3835	Drive plate W617
3	13229	Key
4	3135	Drive belt
F	3094	Chain, 34 links
5	3095	Chain, 36 links
6	2815-17E	Flange
7	13051	Circlips
8	4546	Primary shaft
9	13023	Nut
10	13213	Washer
11	13220	Disc key
12	3345	Pulley
13	4146	Drive belt protector W617/E673
14	3320	Bearing
15	2815-28B	Washer
16	2815-118	Ring
17	3190	Self-lubricating ring
40	0154	19-tooth down-hood sub-
18	9154	assembly
19	13045	Circlips
20	3069	Filling cap
21	4544	Clutch cone
22	13019	Nut
23	2815-44	Breather
24	13221	Disc key
	0150	27-tooth up-hood sub-
	9156	assembly
	0457	31-tooth up-hood sub-
25	9157	assembly
25	0150	35-tooth up-hood sub-
	9159	assembly
	9160	39-tooth up-hood sub-
	3100	assembly
26	2815-38	Washer
27	3152	Needle bush
28	13227	Кеу
29	2815-31	Ring
30	2815-18A	Flange
31	3384	Tie rod
32	4236	Tie rod
33	3719 B	Spring
34	13011	Brake nut
35	13012	Blind nut
36	3635	Cover
37	3148	Needle bush
38	13044	Circlips
39	3379	Cam
40	3381	Brass bearing
41	3378	Plate
42	4565	Brake disc
43	13004	Nut

Item	Reference	Name
44	3377	Base
45	3321	Bearing
46	3067	Drain plug
	4654-39	Toothed wheel, 39 teeth
47	4654 41	Toothed wheel, 41 teeth
47	4654-46	Toothed wheel, 46 teeth
	4654-50	Toothed wheel, 50 teeth
48	22582	Support
49	4564	Worm
50	2815-15-19	Chain sprocket, 19 teeth
50	2815-15-23	Chain sprocket, 23 teeth
51	2815-26 F	Casing
52	2815-135	Roller
53	2815-133	Beam
E A	2015 40	Beam sub-assembly (52-
54	2010-40	53-57-63)
55	3649 S	Rod
56	2815-34	Operating lever
57	2815-136	Roller pin
58	3815-119	Connecting rod
59	4286-1	Cover sub-assembly
60	2815-10	Fork
61	2013-13	Bearing
62	2815-83	Pin
63	13017	Nut
64	/631	Hollow wheel
65	22141	Clamp
00	22171	Clamp
66	22169	Pinion
67	13503	Key
68	13242	Screw
69	22166	Washer
70	3479	Bearing
71	20851	Limit switch slow shaft
72	13305	Nut
73	13230	Key
74	4658	Flange
75	4644	Flange
76	20882	Limit switch slow shaft
77	2815-37A	Spring
78	2815-23	Beam shaft
79	13042	Circlips
80	2815-141	Spring
81	3022	Self-lubricating ring
82	2815-126	Spring
83	4078	Pin
84		Set of pins: 3.5x30 & 6x30
85	4092	Control sub-assembly
86	5039	Cam sub-assembly
87		Bag of seals 2815



10.2) 2815 brake reduction gear reverser (2000 to 5000 TS-TD)

# 2815 brake reduction gear reverser (2000 to 5000 TS-TD)

ltem	Reference	Name
4	4738	Drive pulley ALN330
1	20936	Drive pulley 1D41S
2	3835	Drive plate W617
3	13229	Kev
4	3831	Drive belt
	3094	Chain 34 links
5	3095	Chain 36 links
	0000	
6	2815-17 E	Flange
7	13051	Circlips
8	4546	Primary shaft
9	13023	Nut
10	13213	Washer
11	13220	Disc key
12	3345	Pulley
12	22682	Drive belt protector
13	22746	Drive belt protector
1/	3320	Bearing
14	2015 20 D	Weeher
10	2010-20 D	Ding
10	2010-110	Colf lubrication ring
17	3190	Sell-lublicating ling
18	9154	19-tooth down-hood sub-
10	400.45	assembly
19	13045	Circlips
20	3069	Filling cap
21	4544	Clutch cone
22	13019	Nut
23	2815-44	Breather
24	13221	Disc key
	9156	27-tooth hood sub-assembly
25	9158	32-tooth hood sub-assembly
25	9159	35-tooth hood sub-assembly
	9160	39-tooth hood sub-assembly
26	2815-38	Washer
27	3152	Needle bush
28	13227	Kev
29	2815-31	Ring
30	2815-18A	Flance
31	3384	Tie rod
32	4236	Tie rod
33	3710 B	Spring
34	13011	Brake put
35	13011	Plind put
30	3625	
27	2140	
3/	3140	
38	13044	
39	33/9	Cam Desas has size :
40	3381	Brass bearing
41	3378	Plate
42	4565	Brake disc
43	13004	Nut
44	3377	Base
45	3321	Bearing
46	3067	Drain plug
	4654-39	Toothed wheel, 39 teeth
47	4654-41	Toothed wheel, 41 teeth
+/	4654-45	Toothed wheel, 45 teeth
	4654-50	Toothed wheel, 50 teeth

14	Deferrence	Nama
Item	Reference	Name
48	22582	Support
49	4564	Worm
50	2815-15-19	Chain sprocket, 19 teeth
00	2815-15-23	Chain sprocket, 23 teeth
51	2815-26 F	Casing
52	2815-135	Roller
53	2815-133	Beam
54	2815-48	Beam sub-assembly (52- 53-57-63)
55	3649 S	Rod
56	2815-34	Operating lever
57	2815-136	Roller pin
58	2815-119	Connecting rod
59	4286-1	Cover sub-assembly
60	2815-19	Fork
61	3310	Bearing
62	2815-83	Pin
63	13017	Nut
64	4631	Hollow wheel
65	22679	Clamp
	22533	Clamp
66	22747	Slow shaft
	22353	Slow shaft
67	22748	Spacer
-	22224	Spacer
68	12298	Circlips
69	3547	Bearing
70	3479	Bearing
71	22581	Hollow wheel shaft
72	13305	Nut
73	13230	Kev
74	4658	Flange
75	4644	Flange
76	20882	Limit switch slow shaft
77	2815-37 A	Spring
78	2815-23	Beam shaft
79	13042	Circlins
80	2815-141	Spring
81	3022	Self-lubricating ring
82	2815-126	Spring
83	/078	Pin
8/	4070	F III Sot of pipe: 3 5x30 8 6x30
85	4002	Control sub assombly
86	5030	Cam sub-assembly
00	3039	Pag of cools 2915
07	22244	Clomp
88	22341	Clamp
	22342	Spager
89	22340	Spacer
	22340	Spacer
90	13048	Circlips Deduction gener
	22/42	Reduction gear
91	22/43	Reduction gear
	22/44	Reduction gear
	22/45	Reduction gear

# 10.3) Drum (300 to 1500 TS-TD)

When ordering spare parts, please specify the machine's serial number.



Item	Reference	Name
1	22172	plate
2	22171	Top cover
3	23203	Stud
4	23202	Rope clamp
5	22166	Washer
6	13084	H M12x35 screw
7	13212	M12 washer
8	23054	Bearing
9	23120	Tie-rod screw
10	13214	M16 washer
11	23036	External support
12	13305	Pin
13	20926	Spring
14	3811	Ring
15	23143	Drum sub-assembly
16	23037	Drive shaft
17	23050	Tie rod
18	23154	Bottom cover
19	23129	Toothed wheel
20	13066	H M8x25 screw
21	23153	Reduction gear support
22	3811	Ring
23	23062	Drum shaft

# 10.4) Drum (2000 to 5000 TS-TD)





Item	Reference	Name
1	23046	Drum sub-assembly
2	23014	Drum shaft
3	23016	Tie rod
4	23018	Toothed wheel
5	23029	Toothed cover
6	13485	H FR M16 nut
7	22221	plate
8	13098	H M16x60 screw
9	13214	M16 washer
10	23039	Washer
11	13615	F HC M20x40 screw
12	3790	Ring
13	23011	Bearing

ltem	Reference	Name
14	13617	CHC M6x75 screw
15	23000	Reduction gear support
16	22323	Release button
17	13209	M6 washer
18	13011	H FR M6 nut
19	20926	Spring
20	23032	Bottom cover
21	22321	Release pin
22	13217	M24 washer
23	22115	Tie-rod screw
24	20908	Rope clamp
25	13433	H FR M12 nut
26	23035	Stud
27	23003	External support

# 10.5) Limit switch (option not available on diesel winches)

When ordering spare parts, please specify the machine's serial number.

Item	Reference	Name
1	20886	Base
2	4907	Cover
3	4909	Captive nut
4	4908	Tie rod
5	3036	Сар
6	13023	Nut
7	13244	Screw
8	20883	Intermediate pin
9	13244	Screw
10	3683	Contact
11	20781	Wedge
12	4914	Cannon pinion sub- assembly

Item	Reference	Name
13	20787	Spacer
14	4912	Intermediate pinion sub- assembly
15	13370	Washer
16	4925	Cannon pinion pin
17	13121	Screw
18	4939	Top index sub-assembly
19	3025	Pin
20	4940	Bottom index sub- assembly
21	20884	Cannon pinion pin
22	13384	Pin
23	4915	Entry pinion