WSM

WORKSHOP MANUAL
DUMPER

KC70

Kubota

CONTENTS

MECHANISM

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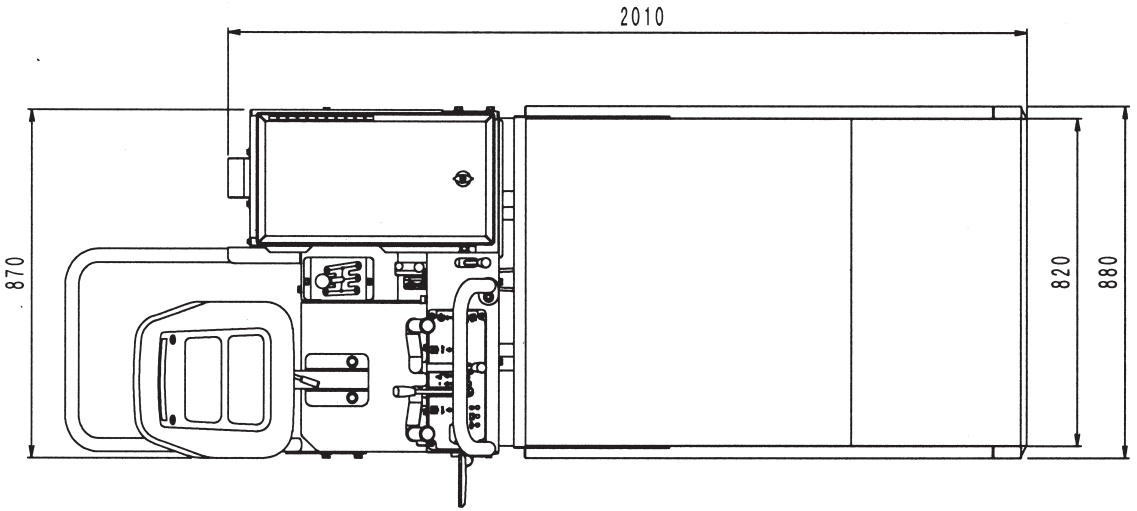
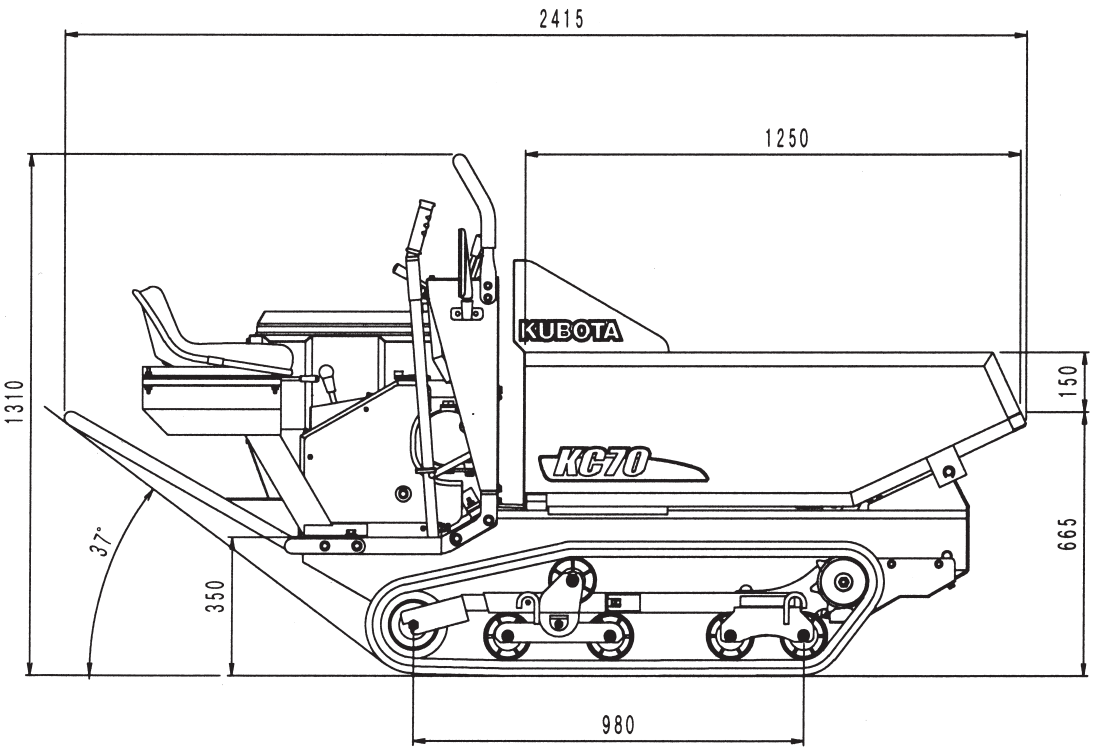
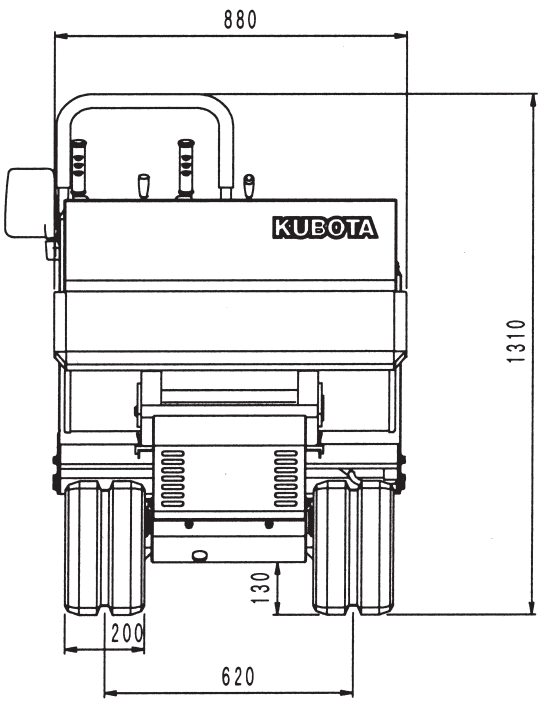
2. TRANSMISSION
3. HYDRAULIC SYSTEM (DUMPING)
4. V-BELT
5. WIRING DIAGRAM

1. DIMENSIONS

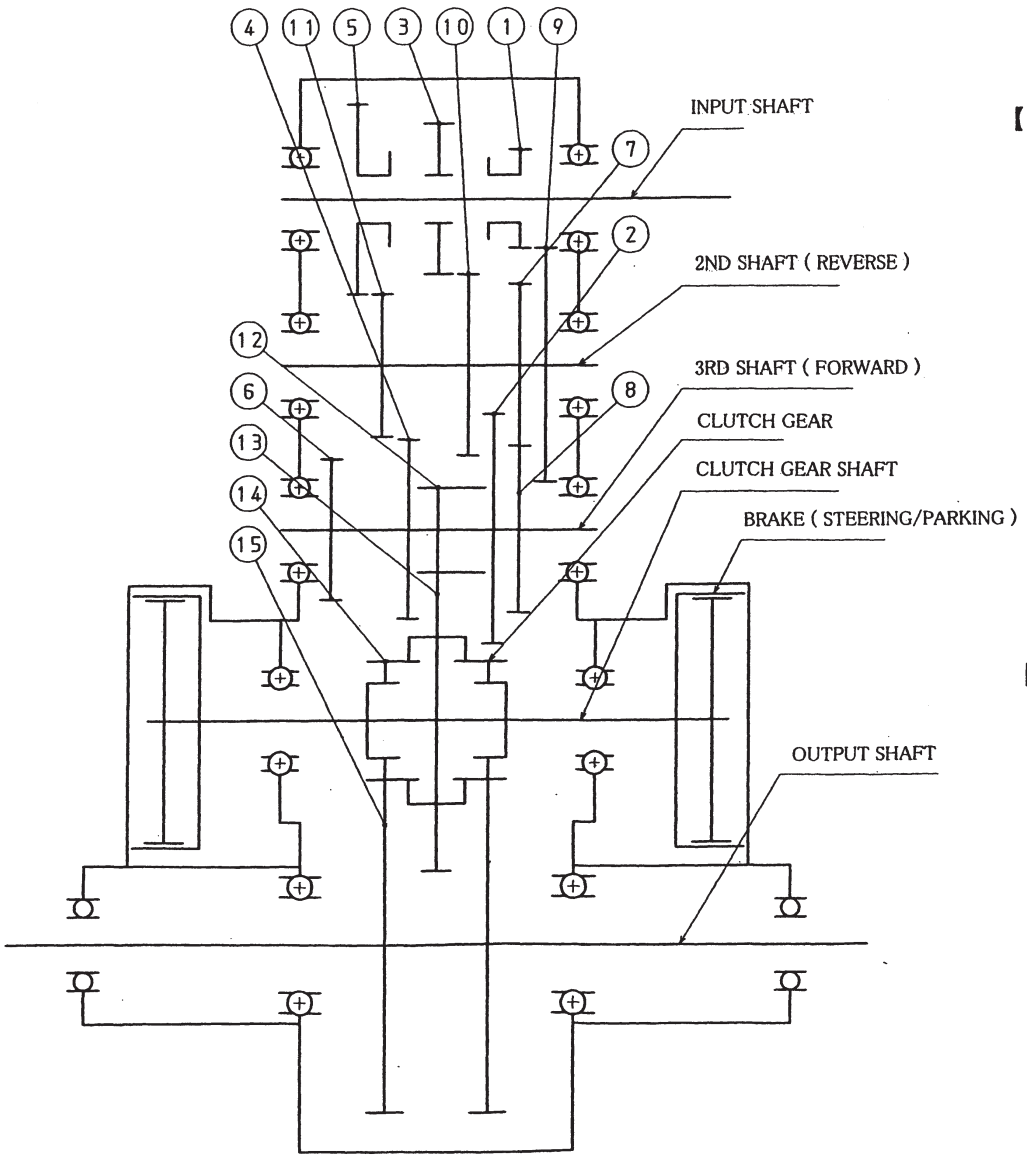






2. TRANSMISSION

【 POWER TRAIN 】



【 NO OF TEETH 】

REF NO	①	②	③	④	⑤	⑥	⑦	⑧
NO OF TEETH	15	36	23	28	29	22	25	26
REF NO	⑨	⑩	⑪	⑫	⑬	⑭	⑮	
NO OF TEETH	36	28	22	11	39	13	36	

【 GEARING 】

FORWARD

$$1ST = \frac{①}{②} \times \frac{⑫}{⑬} \times \frac{⑭}{⑮}$$

$$2ND = \frac{③}{④} \times \frac{⑫}{⑬} \times \frac{⑭}{⑮}$$

$$3RD = \frac{⑤}{⑥} \times \frac{⑫}{⑬} \times \frac{⑭}{⑮}$$

REVERSE

$$1ST = \frac{①}{⑨} \times \frac{⑦}{⑧} \times \frac{⑫}{⑬} \times \frac{⑭}{⑮}$$

$$2ND = \frac{③}{⑩} \times \frac{⑦}{⑧} \times \frac{⑫}{⑬} \times \frac{⑭}{⑮}$$

$$3RD = \frac{⑤}{⑪} \times \frac{⑦}{⑧} \times \frac{⑫}{⑬} \times \frac{⑭}{⑮}$$

【 GEAR RATIO 】

FORWARD

$$1ST = \frac{15}{36} \times \frac{11}{39} \times \frac{13}{36} = \frac{1}{23.56}$$

$$2ND = \frac{23}{28} \times \frac{11}{39} \times \frac{13}{36} = \frac{1}{11.95}$$

$$3RD = \frac{29}{22} \times \frac{11}{39} \times \frac{13}{36} = \frac{1}{7.45}$$

REVERSE

$$1ST = \frac{15}{36} \times \frac{25}{26} \times \frac{11}{39} \times \frac{13}{36} = \frac{1}{24.50}$$

$$2ND = \frac{23}{28} \times \frac{25}{26} \times \frac{11}{39} \times \frac{13}{36} = \frac{1}{12.43}$$

$$3RD = \frac{29}{22} \times \frac{25}{26} \times \frac{11}{39} \times \frac{13}{36} = \frac{1}{7.75}$$

3. HYDRAULIC SYSTEM (DUMPING)

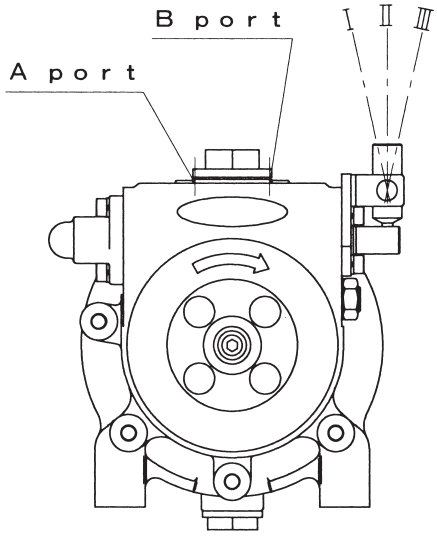
Hydraulic pump

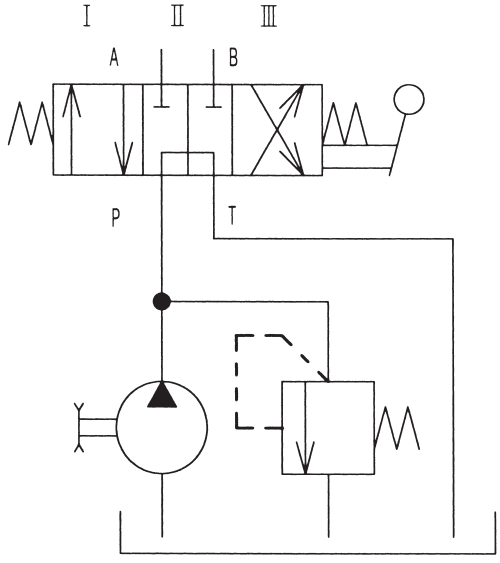
Hydraulic pump	: K52R
	Parts no (89915-1256-0)
Discharge volume	: 5cc/rev
Revolution	: 500~2000rpm
Relief valve set pressure	: 95^{+5}kg/cm^2 ($9.3^{+0.5}$MPA)
	(at 1800rpm)
Tank capacity	: 1.6L
Pulley size (pump)	: $3^1/_2$" x B1 (dia 88.9mm)
Pulley size (engine)	: (dia 95.0mm)

Flow of hydraulic oil

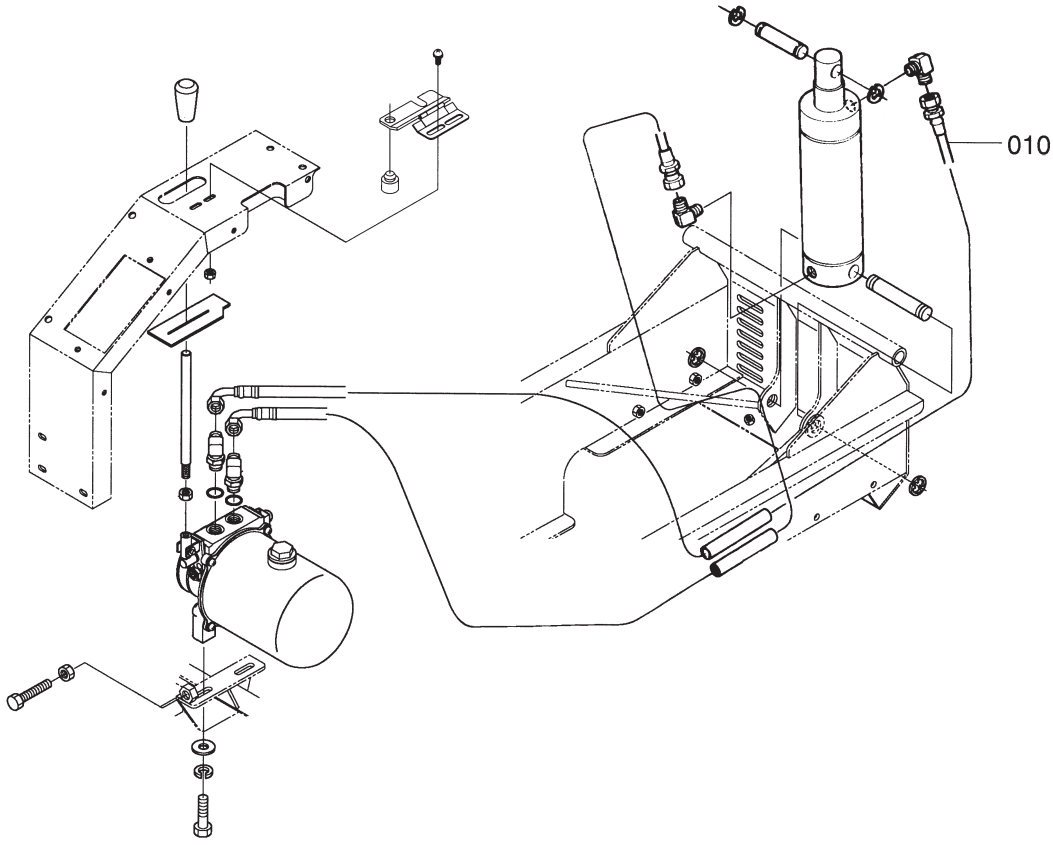
A : Pull-Down port

B : Push-up port

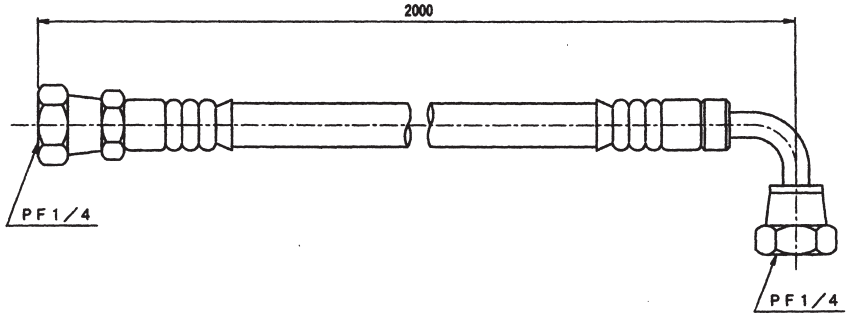




Hydraulic hose



Ref no	Parts no	Length	Joint
010	89915-1167-0	2000mm	PF1/4



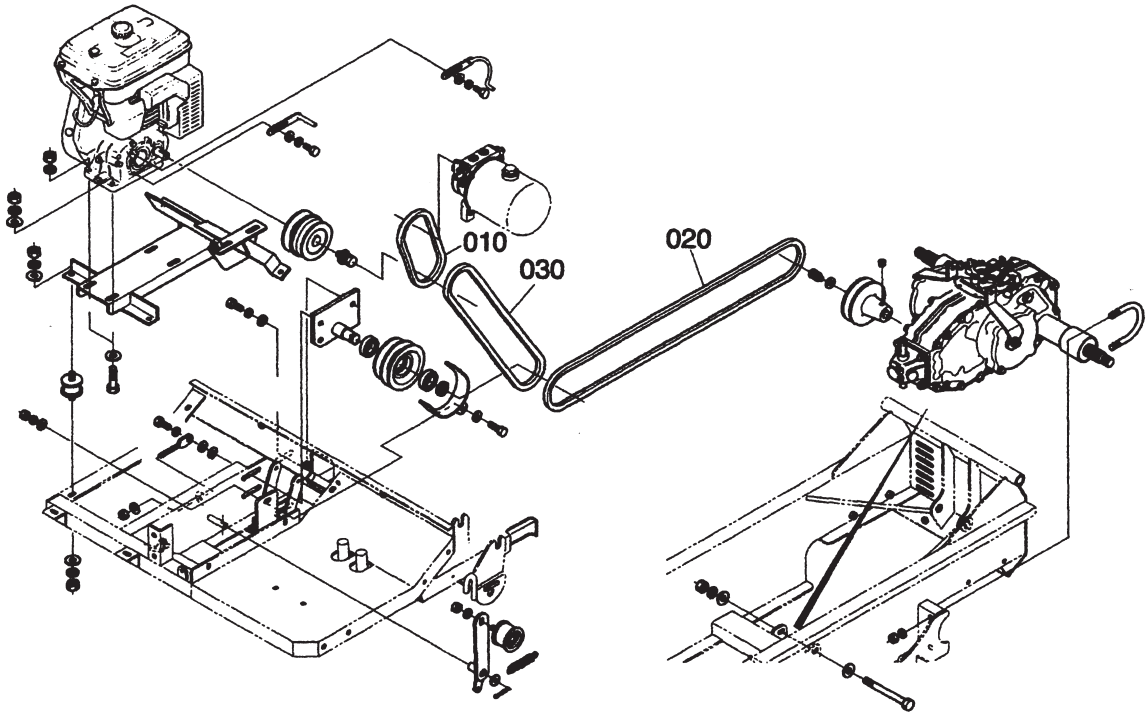
4. V-BELT

Size of V-belt

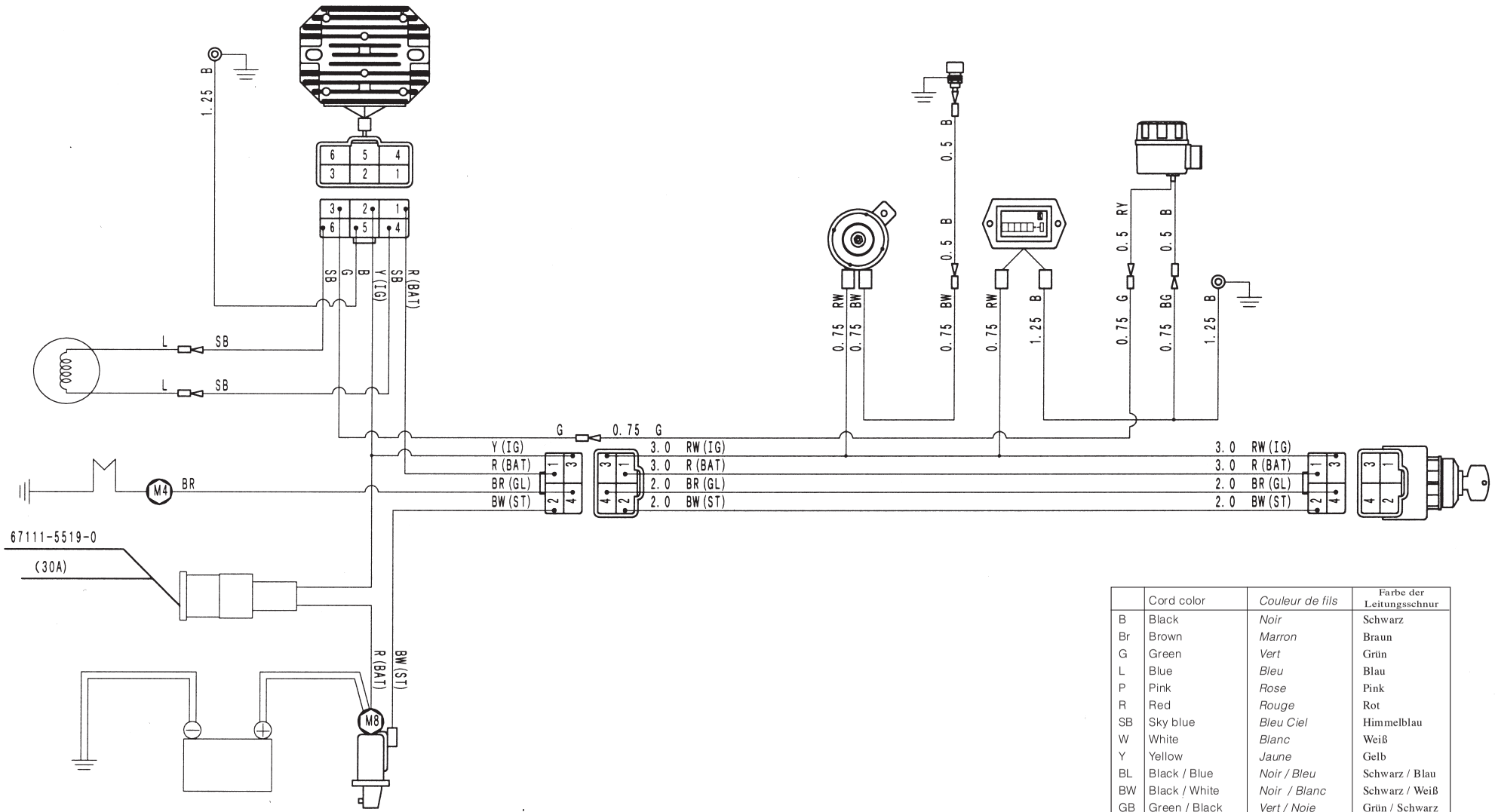
1) V-belt (Engine pulley ~ Drive pulley / Ref no 030)
Size: SC41 (Cog belt) x 1 pce / parts no 89915-1166-0.

2) V-belt (Engine pulley ~ Hydraulic pump pulley / Ref no 010)
Size: LB24 x 1 pce / parts no 89911-2116-0

3) V-belt (Drive pulley ~ Transmission pulley / Ref no 020)
Size: SC71 (Cog belt) x 1 pce / parts no 89915-1160-0.



5. WIRING DIAGRAM



	Cord color	*Couleur de fils*	Farbe der Leitungsschnur
B	Black	*Noir*	Schwarz
Br	Brown	*Marron*	Braun
G	Green	*Vert*	Grün
L	Blue	*Bleu*	Blau
P	Pink	*Rose*	Pink
R	Red	*Rouge*	Rot
SB	Sky blue	*Bleu Ciel*	Himmelblau
W	White	*Blanc*	Weiß
Y	Yellow	*Jaune*	Gelb
BL	Black / Blue	*Noir / Bleu*	Schwarz / Blau
BW	Black / White	*Noir / Blanc*	Schwarz / Weiß
GB	Green / Black	*Vert / Noie*	Grün / Schwarz
LB	Blue / Black	*Bleu / Noir*	Blau / Schwarz
PB	Pink / Black	*Rose / Noir*	Pink / Schwarz
RW	Red / White	*Rouge / Blanc*	Rot / Weiß
WB	Red / White	*Blanc / Noir*	Weiß / Schwarz
YB	Yellow / Black	*Jaune / Noir*	Gelb / Schwarz
BR	Black / Red	*Noir / Rouge*	Schwarz / Rot

SERVICING

1. TIGHTENING TORQUE
2. OILS
3. CAUTION FOR DISASSEMBLY AND REASSEMBLY
4. ADJUSTMENT OF COMPONENT PARTS
5. REPLACEMENT OF WEAR OUT PARTS
6. TROUBLESHOOTING AND COUNTERMEASURES

1. TIGHTENING TORQUE

1) GENERAL BOLTS AND NUTS

Bolt torque
Couple pour les boulons
Schraubendrehkrasft

Material Grade *Grade de matière* Materialgütegrad	Standard Bolt *Boulon standardisé* Standardschrauben	Special Bolt *Boulon spécial* Spezialschrauben	Special Bolt *Boulon spécial* Spezialschrauben
Nominal Dia. *Dia. nominal* Nom. Durchmesser	SS41, S20C	S43C, S487C (Refined) *S43C, S48C (Raffiné)* S43C, S48C (Nachbearbeitet)	SCR3, SCM3 (Refined) *SCR3, SCM3 (Reffiné)* SCR3, SCM3 (Nachbearheitet)
M6	7.8 - 9.3 N.m 0.80 - 0.95 kgf-m 5.8 - 6.9 lb.ft.	9.8 - 11.3 N.m 1.00 - 1.15 kgf-m 7.2 - 8.3 lb.ft.	12.3 - 14.2 N.m 1.25 - 1.45 kgf-m 9.0 - 10.5 lb.ft.
M8	17.7 - 20.6 N.m 1.80 - 2.10 kgf-m 13.0 - 15.2 lb.ft.	23.5 - 27.5 N.m 2.40 - 2.80 kgf-m 17.4 - 20.3 lb.ft.	29.4 - 34.3 N.m 3.00 - 3.50 kgf-m 21.7 - 25.3 lb.ft.
M10	39.2 - 45.1 N.m 4.00 - 4.60 kgf-m 28.9 - 33.3 lb.ft.	48.0 - 55.9 N.m 4.90 - 5.70 kgf-m 35.4 - 41.2 lb.ft.	60.8 - 70.6 N.m 6.20 - 7.20 kgf-m 44.8 - 52.1 lb.ft.
M12	62.8 - 72.6 N.m 6.40 - 7.40 kgf-m 46.3 - 53.5 lb.ft.	77.5 - 90.2 N.m 7.90 - 9.20 kgf-m 57.1 - 66.5 lb.ft.	103.0 - 117.7 N.m 10.50 - 12.00 kgf-m 75.9 - 86.8 lb.ft.
M14	107.9 - 125.5 N.m 11.00 - 12.80 kgf-m 79.6 - 92.6 lb.ft.	123.6 - 147.1 N.m 12.60 - 15.00 kgf-m 91.1 - 108.5 lb.ft.	166.7 - 196.1 N.m 17.00 - 20.00 kgf-m 123.0 - 144.7 lb.ft.
M16	166.7 - 191.2 N.m 17.00 - 19.50 kgf-m 123.0 - 141.0 lb.ft.	196.1 - 225.5 N.m 20.00 - 23.00 kgf-m 144.7 - 166.4 lb.ft.	259.9 - 304.0 N.m 26.50 - 31.00 kgf-m 191.7 - 224.2 lb.ft.
M18	245.2 - 284.4 N.m 25.00 - 29.00 kgf-m 180.0 - 209.8 lb.ft.	274.6 - 318.7 N.m 28.00 - 32.50 kgf-m 202.5 - 235.1 lb.ft.	343.2 - 402.0 N.m 35.00 - 41.00 kgf-m 253.2 - 296.5 lb.ft.
M20	333.4 - 392.2 N.m 34.00 - 40.00 kgf-m 245.9 - 289.3 lb.ft.	367.7 - 431.5 N.m 37.50 - 44.00 kgf-m 271.2 - 318.2 lb.ft.	490.3 - 568.7 N.m 50.00 - 58.00 kgf-m 361.6 - 419.5 lb.ft.

Bolt material grades are shown by numbers punched on the bolt heads. Prior to tightening, be sure to check out the numbers as shown below.

Punched Number	Bolt Material Grade
None	Standard Bolts SS41, S20C
7	Standard Bolts SS43, S48C (Refined)
9	Special Bolts SCR3, SCM3 (Refined)

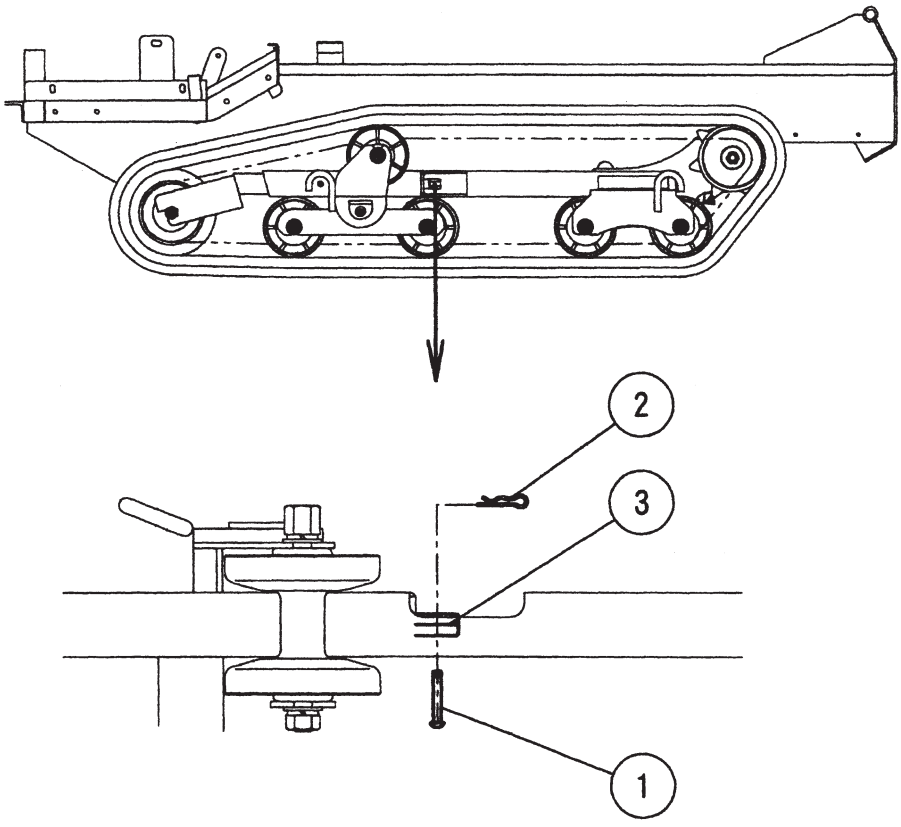
Grande de matière des boulons est indiqué par le numéro sur la tête de boulon. Pour le couple de serrage, vérifiez le numéro comme suivant.

Numéro marqué	*Grade de matière des boulons*
Nul	*Boulon standardisé* *SS41, S20C*
7	*Boulon spécial* *S43C, S48C* *(Reffiné)*
9	*Boulon spécial* *SCR3, SCM3* *(Reffiné)*

Gütegrade der Schrauben sind durch Einstanzungen auf dem Schraubenkopf ersichtlich. Vor dem Anziehen der Schrauben, bitte die Nummern überprüfen, Wie nachstehend gezeig.

Einges-tarzte	Gütegrad Schraubenmaterial
Keine	Standardschrauben SS41. S20C
7	Standardschrauben SS43. S48C (Nachbearbeitet)
9	Speziaschrauben SCR3, SCM3 (Nachbearbeitet)

2) Crawler adjusting bolt ..... 130 kgf·cm



① Pin
② Snap pin
③ Crawler adjusting bolt

2. OILS

TRANSMISSION OIL

Type of oil	Quantity	Serial no
Gear Lubrication oil #90	1.9L	~ 00061
Automatic transmission fluid (ATF) [DEXRON]	1.9L	00062 ~

HYDRAULIC PUMP OIL

Type of oil	Viscosity		Quantity
Hydraulic oil	ISO46	Shell Tellus T46 or equivalent oil	1.5 - 1.6L

NOTE
Total capacity of hydraulic pump oil with new cylinder and hoses : Approx. 1.9L