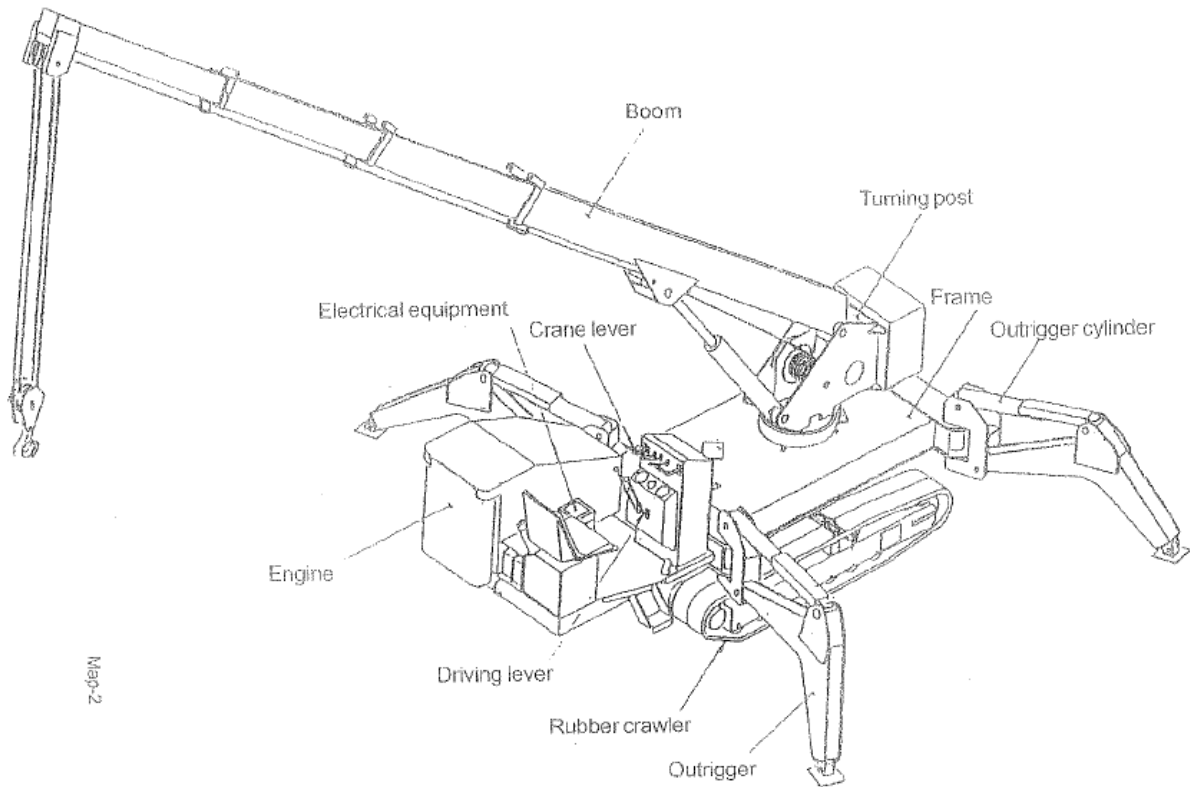


# Toa TC-304HAL

## 2.9 Mini Crawler Crane

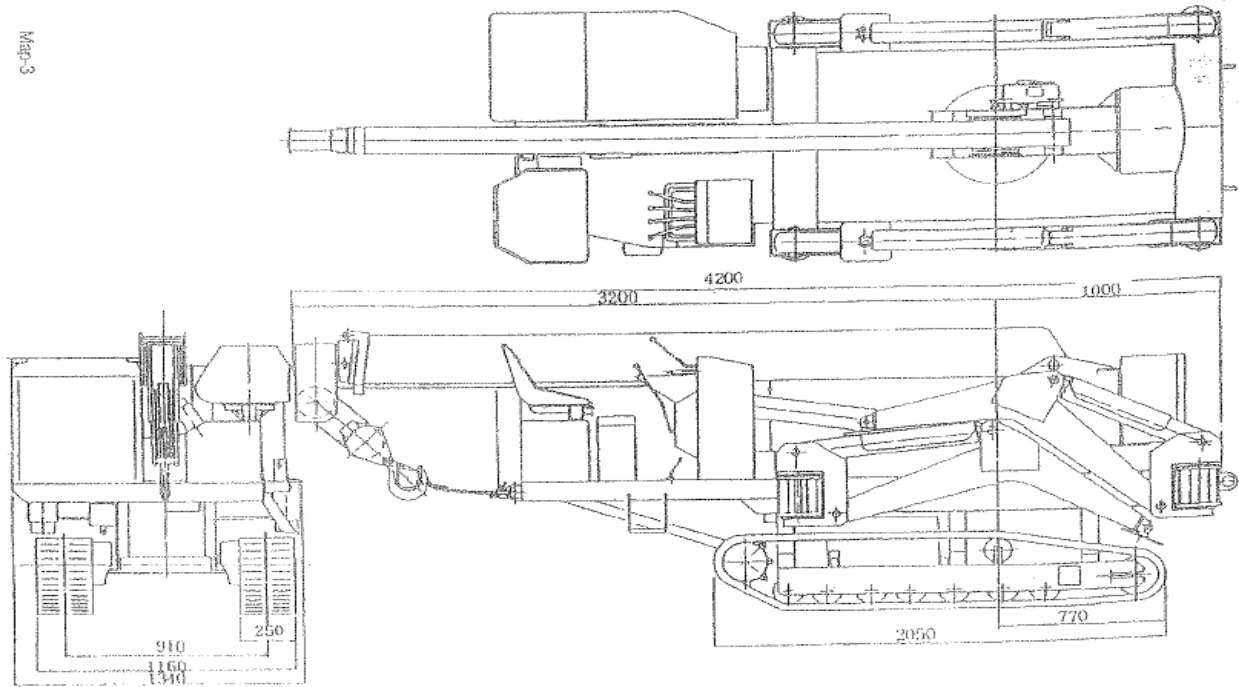
### Load Charts



# Toa TC-304HAL

## 2.9 Mini Crawler Crane

### Specifications

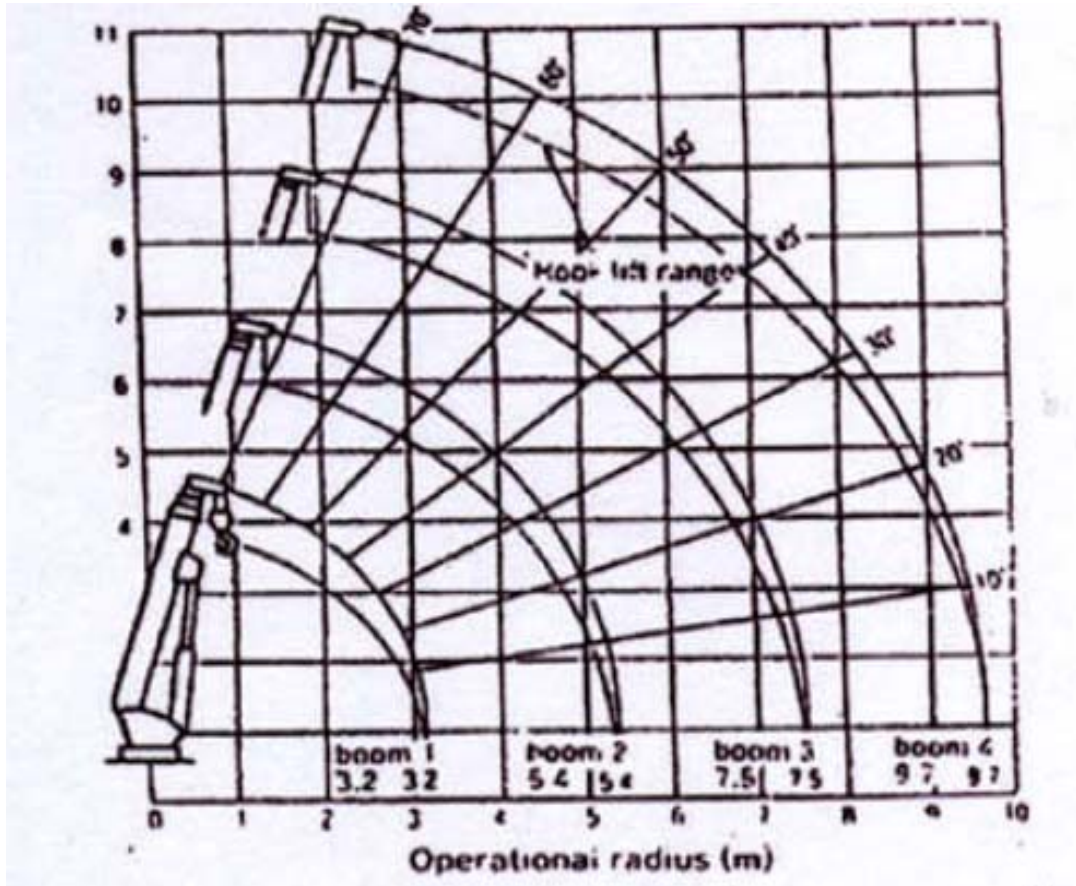


ENGINE	
Engine	Diesel engine zb600c-i
Power	13ps/3,200rpm
TRANSMISSION	
Clutch	Belt tension type
Steering gear	Inner expansion brake skid steer
Brake	Inner expansion shoe & drum
Transmission	Forward/backward 3-shifts
SPEED	
1 <sup>st</sup> speed	0.8km/h
2 <sup>nd</sup> speed	1.2
3 <sup>rd</sup> speed	2.2
Hill climbing ability	20°
TRACK	
Trank shoe	Rubber crawler
Track width	250mm
Length on ground	2.000(1,550)mm
Pressure to ground	0.33kg/cm <sup>2</sup>
Weight	2,750kg
DIMENSION	
Length	4,200mm
Width	1,300mm
Height	1,500mm
HYDRAULICS	
Hydraulic pump	Gear pump
Relief pressure	210kg/cm <sup>2</sup>
Oil quantity	60l

PERFORMANCE	
Rated Load	2,900kg
Max. Radius	9.7m
Max. Lift Range aboveground	10.7m
Max. lift range underground	GL-29.0m (double cable)
WINDER	
Hoist winch	Hydraulic motor spur gear reduction
Cable	6 X 37 normal-z 9mm
Cable Length	Standard 60m, max 70m
No. of Cables	Quadruple
Winding Speed	8.6m/min
Hoist Brake	Mechanical brake
EXTENSION/RETRACTION DEVICE	
Boom Length	3.0 – 9.7m
Boom Stage	4
Extension/retraction method	2-stepped by hydraulics
Extension/retraction stroke	4.5m
Extension time	30sec/4.5m
HEAD-UP/DOWN DEVICE	
Boom elevation method	Direct hydraulic cylinder pressure
Boom elevation Angle	0-75°
Time for full angle	17sec
ROTATOR	
Turning method	Hydraulic cylinder pressure
Slewing angle	Non-step 360 deg.
Slewing Speed	1r/min
OUTRIGGER	
Autvigen method	Manual extraction engagement warm gear reduction
SAFETY DEVICE	
Safety equipments	Load meter
Hydraulic safety device	Boom angle gauge
Automatic lock device	Relief valve
Anti-over wind	Counter balance valve pilot check valve
	By a plumb type of buzzer

## Toa TC-304HAL 2.9 Mini Crawler Crane

Range Diagram



Load Chart

### BOOM A OR & B CAPACITY

RADIUS (M)	2.0	2.5	3.0	3.5	4.0	4.5	4.9
S.W.L (TON)	2.88	2.90	2.3	1.75	1.4	1.15	1.05

### BOOM A, B, & C CAPACITY

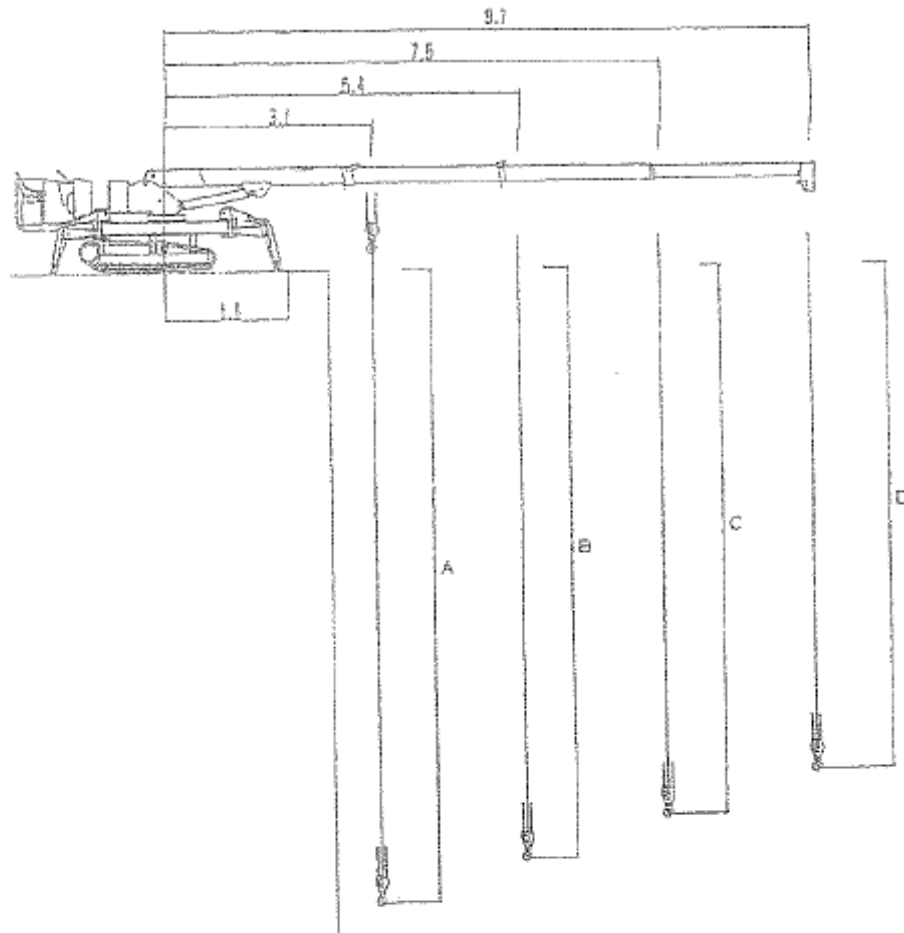
RADIUS (M)	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0
S.W.L (TON)	2.3	1.75	1.4	1.15	1.0	0.82	0.74	0.82	0.52

### BOOM & A, B, C, & D CAPACITY

RADIUS (M)	3.0	4.0	5.0	6.0	7.0	8.0	9.0	9.2
S.W.L (TON)	1.1	1.1	1.0	0.74	0.52	0.41	0.35	0.34

## Toa TC-304HAL 2.9 Mini Crawler Crane

### Beyond Ground Reach Table for Hoist



Units: m, kgf

Number of wire lines	1st stage boom (A)		2nd stage boom (B)		3rd stage boom (C)		4th stage boom (D)	
	Reach	Total load rating	Reach	Total load rating	Reach	Total load rating	Reach	Total load rating
4 lines	14.4	1840	13.9	800	13.4	450	12.9	310
3 lines	19.6	1840	18.9	800	18.2	450	17.5	310
2 lines	30.0	1400	28.9	800	27.8	450	26.8	310
1 line	61.2	700	59.0	700	56.9	450	54.8	310

Available wire length TC304 HAL-70m.

Specified total load rating on the drivers seat side is the above figures multiplied by 0.7.

# Toa TC-304HAL

## 2.9 Mini Crawler Crane

### Outrigger Ground Contact Pressure Chart

When using boom A and A B

Operation radius (m)	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.4
Load rating (ton)	2.9	2.5	2.0	1.6	1.3	1.1	0.93	0.8
Ground contact load (ton)	3.1	3.3	3.3	3.2	3.1	3.0	3.0	2.9

When using boom A B C

Operation radius (m)	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5
Load rating (ton)	2.0	1.6	1.3	1.1	0.92	0.77	0.67	0.57	0.52	0.45
Ground contact load (ton)	3.2	3.1	3.0	3.0	2.9	2.8	2.7	2.7	2.7	2.6

When using boom A B C D

Operation radius (m)	3.0	4.0	5.0	6.0	7.0	8.0	9.0	9.7
Load rating (ton)	1.0	0.9	0.77	0.67	0.52	0.41	0.34	0.31
Ground contact load (ton)	2.0	2.3	2.49	2.64	2.57	2.5	2.5	2.5

The ground contact load indicated in these tables is the maximum reaction force exerted on one outrigger when loads are lifted, based on the figures in the load rating tables.