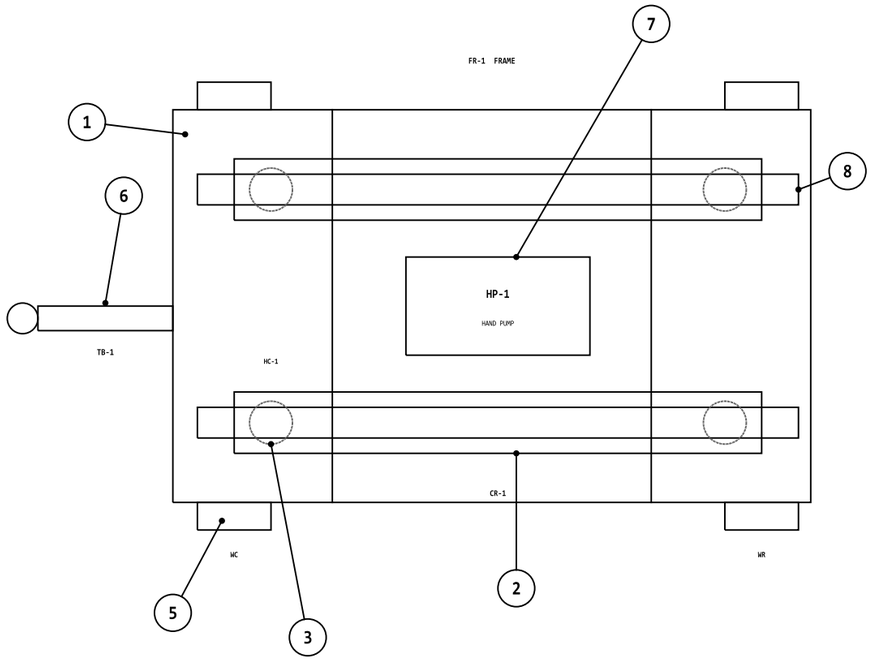
PLAN - DOLLY

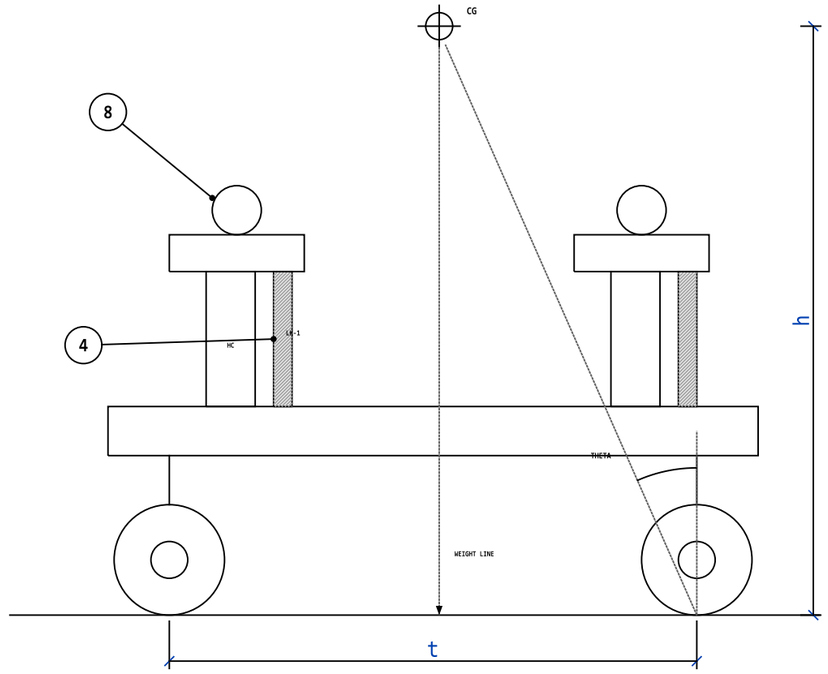
NOT TO SCALE



THE WEIGHT LINE FROM THE CENTRE OF GRAVITY CG MUST STAY BETWEEN THE WHEELS: THE DOLLY CAN BE TILTED THROUGH THE ANGLE THETA BEFORE IT REACHES THE WHEEL, AND THAT ANGLE FALLS AS THE HEIGHT h OF THE CENTRE RISES; THE TRACK IS t; NO HELICOPTER IS DRAWN, THE TUBES STAND IN FOR THE SKIDS; THE LIMITS ARE ON SHEET 002

FRONT ELEVATION - DOLLY LIFTED

NOT TO SCALE



NOTES

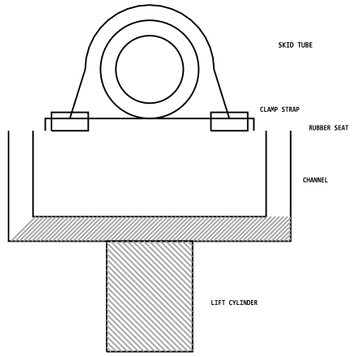
1. REFERENCE ARRANGEMENT OF A HAND-PUMPED HELICOPTER HANDLING DOLLY. LETTERS ARE DIMENSIONS SET BY DESIGN: NO WEIGHT, HEIGHT, SPEED, SLOPE, SIZE, COUNT OR TIME VALUE IS GIVEN.
2. THE PLAN SHOWS THE FRAME FR-1, THE TWO CRADLES CR-1 WITH THE SKID TUBES, THE LIFT CYLINDERS HC-1 TO HC-4, THE HAND PUMP HP-1, THE WHEELS AND THE TOWBAR TB-1. THE FRONT ELEVATION SHOWS THE DOLLY LIFTED, THE LOCKS LK-1, THE CENTRE OF GRAVITY CG AT THE HEIGHT h, THE TRACK t AND THE TILT THETA.
3. DETAIL A: THE CRADLE IN SECTION. DETAIL B: THE LIFT AND THE LOCK. DETAIL C: THE HYDRAULIC CIRCUIT. NO HELICOPTER IS DRAWN: THE LIFTING POINTS AND THE LIMITS COME FROM THE HELICOPTER'S MAKER AND THE CUSTOMER.
4. THE SEQUENCE OF A MOVE AND THE CURVES ARE ON SHEET 002. THE CYLINDERS, THE PUMP, THE WHEELS AND THE BRAKES ARE CATALOGUE ITEMS, BOUGHT IN. GUARDS AT THE PINCH POINTS ARE NOT SHOWN.

ITEMS

ITEM	DESCRIPTION
1	FRAME FR-1
2	SKID CRADLES CR-1
3	LIFT CYLINDERS HC-1 TO HC-4
4	MECHANICAL LOCKS LK-1
5	WHEELS AND CASTORS
6	TOWBAR TB-1
7	HAND PUMP HP-1
8	SKID TUBES (STAND-IN)

DETAIL A - THE CRADLE IN SECTION

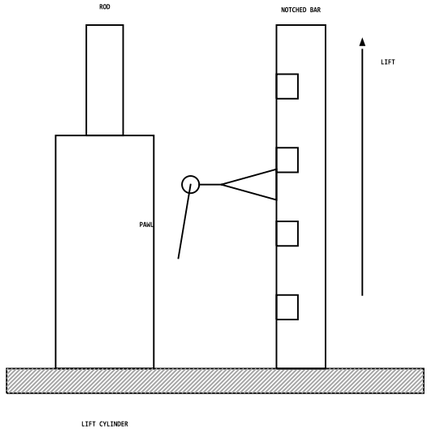
NOT TO SCALE



THE CRADLE LOCATES THE SKID TUBE IN A RUBBER SEAT AND A CLAMP STRAP HOLDS IT DOWN, SO THE LOAD GOES INTO THE SKID AT THE POINT THE MAKER STATES, SPREAD ALONG THE TUBE AND NOT CRUSHED; THE CYLINDER BELOW LIFTS THE CRADLE

DETAIL B - THE LIFT AND THE LOCK

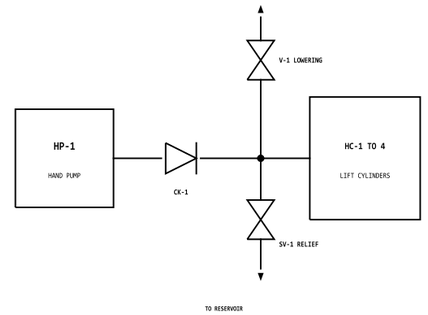
NOT TO SCALE



OIL LIFTS AND STEEL HOLDS: THE CYLINDER RAISES THE LOAD, THE PAWL DROPS INTO A NOTCH OF THE BAR, AND FROM THEN ON THE LOAD IS CARRIED BY THE LOCK, SO A LEAKING SEAL CANNOT LET IT DOWN

DETAIL C - THE HYDRAULIC CIRCUIT

NOT TO SCALE



THE HAND PUMP HP-1 FEEDS THE LIFT CYLINDERS THROUGH THE CHECK VALVE CK-1; THE RELIEF VALVE SV-1 LIMITS THE PRESSURE; THE LOWERING VALVE V-1 RETURNS THE OIL TO THE RESERVOIR AND IS ONLY OPENED WHEN THE LOCKS ARE LIFTED

REFERENCE CONFIGURATION - NOT FOR CONSTRUCTION

NEOMETRIX DEFENCE LIMITED

ENGINEERED IN NOIDA - INDIA

HELICOPTER HANDLING DOLLY - REFERENCE CONFIGURATION

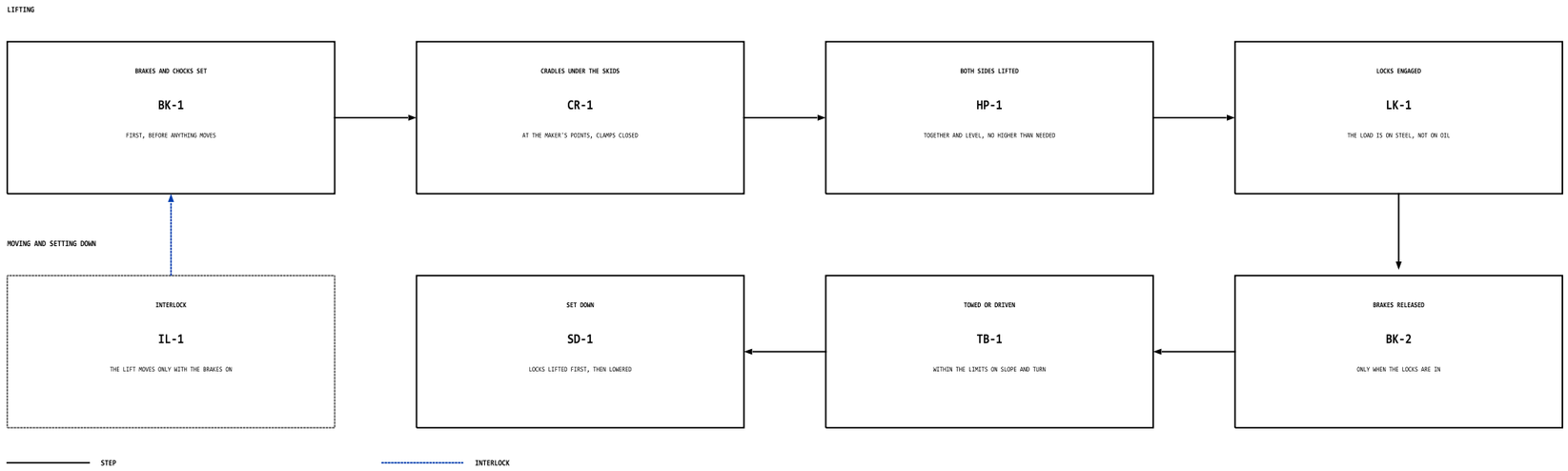
ARRANGEMENT AND DETAILS

THE DOLLY, THE CRADLE, THE LIFT AND LOCK AND THE HYDRAULIC CIRCUIT

DWG NO	SCALE @ A3	SHEET	REV
NMX-HHD-116-001	NTS	1 OF 2	A
DATE	UNITS	DRAWN	STATUS
20-11-2026	TAGS ONLY	NMX-DO	REFERENCE

SEQUENCE OF A MOVE - HELICOPTER HANDLING DOLLY

NOT TO SCALE

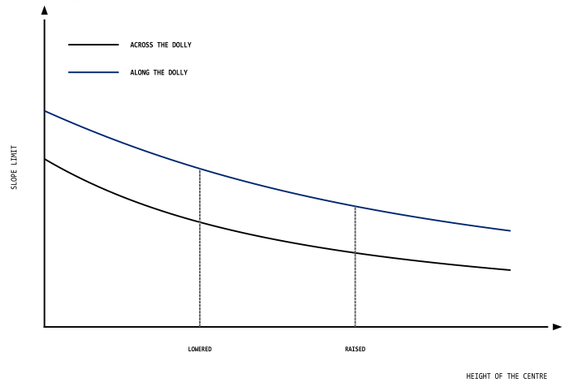


NOTES

1. REFERENCE SEQUENCE AND CURVES OF A HAND-PUMPED HELICOPTER HANDLING DOLLY. TAGS AND LETTERS ONLY: NO WEIGHT, HEIGHT, SPEED, SLOPE, SIZE, COUNT OR TIME VALUE IS GIVEN.
2. THE SEQUENCE: BRAKES AND CHOCKS BK-1, CRADLES CR-1 WITH THE CLAMPS CLOSED, BOTH SIDES LIFTED BY THE HAND PUMP HP-1, LOCKS LK-1 ENGAGED, BRAKES RELEASED BK-2, THE DOLLY TOWED OR DRIVEN WITHIN THE LIMITS TB-1, AND SET DOWN SD-1 WITH THE LOCKS LIFTED FIRST. THE INTERLOCK IL-1 LETS THE LIFT MOVE ONLY WITH THE BRAKES ON.
3. DETAILS A TO C ARE COMPUTED FROM SIMPLE RELATIONS OF A RIGID BODY ON WHEELS IN RELATIVE UNITS: A PICTURE OF THE IDEA, NOT A MEASUREMENT. THE ARRANGEMENT IS ON SHEET 001.
4. THE LIFTING POINTS AND THE LIMITS OF A REAL DOLLY COME FROM THE HELICOPTER'S MAKER AND THE CUSTOMER AND ARE WORKED OUT FOR EACH DOLLY.

DETAIL A - THE SLOPE LIMIT

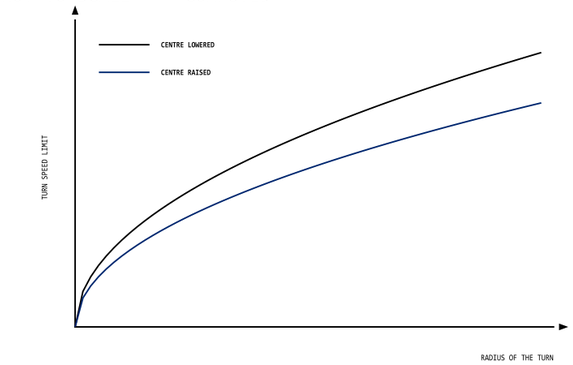
NOT TO SCALE - COMPUTED



THE DOLLY STARTS TO TIP ON A SLOPE WHEN THE WEIGHT LINE REACHES A WHEEL LINE: THE HIGHER THE CENTRE OF GRAVITY, THE SMALLER THE SLOPE; ACROSS THE DOLLY, WHERE THE WHEELS ARE CLOSER, IS THE TIGHTER LIMIT; COMPUTED IN RELATIVE UNITS: A PICTURE OF THE IDEA, NOT A MEASUREMENT

DETAIL B - THE TURN LIMIT

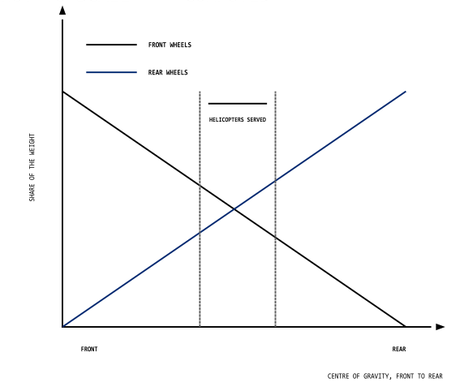
NOT TO SCALE - COMPUTED



A TURN PUSHES THE WEIGHT LINE SIDEWAYS, MORE THE FASTER AND THE TIGHTER IT IS: THE SPEED LIMIT GROWS WITH THE SQUARE ROOT OF THE RADIUS AND FALLS AS THE CENTRE RISES; COMPUTED IN RELATIVE UNITS: A PICTURE OF THE IDEA, NOT A MEASUREMENT

DETAIL C - THE WHEEL LOADS

NOT TO SCALE - COMPUTED



THE WEIGHT IS SHARED BETWEEN THE WHEELS BY WHERE THE CENTRE OF GRAVITY SITS; THE BAND IS THE RANGE OVER THE HELICOPTERS SERVED, AND THE WHEELS ARE SIZED FOR THE WORST CASE; COMPUTED, RELATIVE UNITS: A PICTURE OF THE IDEA, NOT A MEASUREMENT

REFERENCE CONFIGURATION - NOT FOR CONSTRUCTION

NEOMETRIX DEFENCE LIMITED
ENGINEERED IN NOIDA - INDIA

HELICOPTER HANDLING DOLLY - REFERENCE CONFIGURATION

SEQUENCE AND CURVES

THE SEQUENCE OF A MOVE AND THE CURVES OF THE IDEA

DWG NO	SCALE @ A3	SHEET	REV
NMX-HHD-116-002	NTS	2 OF 2	A
DATE	UNITS	DRAWN	STATUS
20-11-2026	TAGS ONLY	NMX-DO	REFERENCE