

Summary

Project Name: Hydraulic schematic creation for All Terrain Crane

Scope: Creation of new hydraulic schematic

Software: Auto CAD

- Creation of new hydraulic schematic in Autocad representing all the hoses, pipes, valves and fittings for Carrier and Superstructure based on function (Ex. steering, suspension and outrigger)
- Verify pressure ratings of hoses, fittings and pipes to ensure it is rated for the operating pressure in the circuit.

Schematic Creation Process :

- Inputs received from site – Picture documentation from production, hose and pipe list from prototype, BOM and master hydraulic circuit.
- If required, rename the position numbers in PDV to match standard representation that provides information regarding the station where the components is assembled (42XX-fittings in preassembly, 12XX – fittings in station1).
- Represent all the hoses, fittings and pipes based on function and station.
- Verify to ensure components are rated for the working pressure
- Release the schematic in ERP system



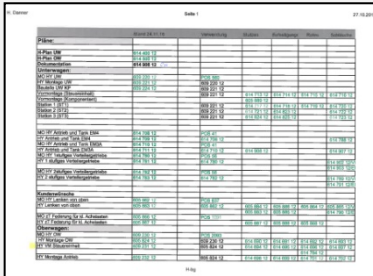
Summary

Project Name: Hydraulic schematic creation

Scope: Creation of new hydraulic schematic in Auto CAD

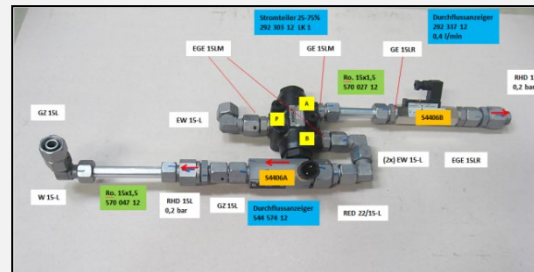
Software: Auto CAD

BOM Structure

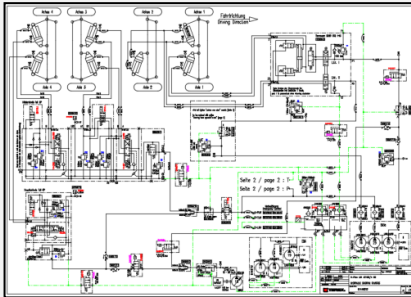


| Part Name | Quantity | Part Name | Quantity |
|----------------|----------|----------------|----------|
| Hydraulic Hose | 1 | Hydraulic Hose | 1 |
| Hydraulic Hose | 1 | Hydraulic Hose | 1 |
| Hydraulic Hose | 1 | Hydraulic Hose | 1 |
| Hydraulic Hose | 1 | Hydraulic Hose | 1 |
| Hydraulic Hose | 1 | Hydraulic Hose | 1 |
| Hydraulic Hose | 1 | Hydraulic Hose | 1 |
| Hydraulic Hose | 1 | Hydraulic Hose | 1 |
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| Hydraulic Hose | 1 | Hydraulic Hose | 1 |

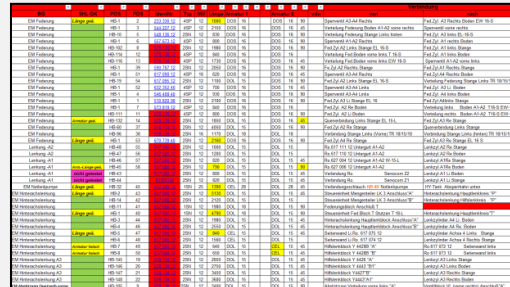
Picture Documentation



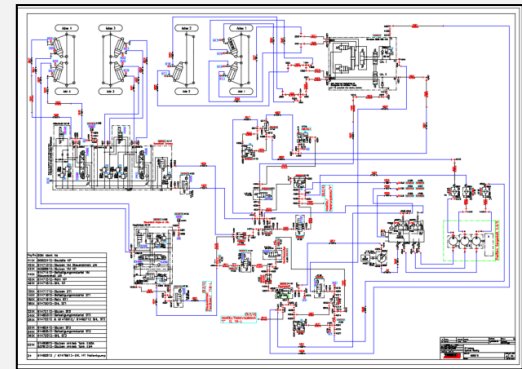
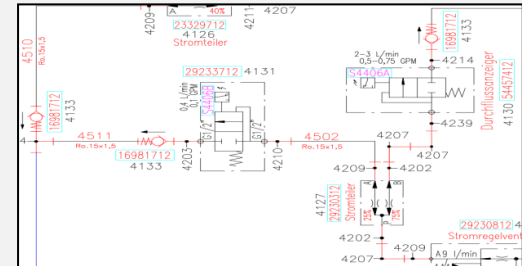
Master Circuit



Hose and Pipe List



| Part Name | Quantity | Part Name | Quantity |
|----------------|----------|----------------|----------|
| Hydraulic Hose | 1 | Hydraulic Hose | 1 |
| Hydraulic Hose | 1 | Hydraulic Hose | 1 |
| Hydraulic Hose | 1 | Hydraulic Hose | 1 |
| Hydraulic Hose | 1 | Hydraulic Hose | 1 |
| Hydraulic Hose | 1 | Hydraulic Hose | 1 |
| Hydraulic Hose | 1 | Hydraulic Hose | 1 |
| Hydraulic Hose | 1 | Hydraulic Hose | 1 |
| Hydraulic Hose | 1 | Hydraulic Hose | 1 |
| Hydraulic Hose | 1 | Hydraulic Hose | 1 |
| Hydraulic Hose | 1 | Hydraulic Hose | 1 |



Advantages:

- Document helps workers in assembly line to identify and make connections faster.
- Troubleshooting and addressing field issues is easier since all the parts and connections are in one document.

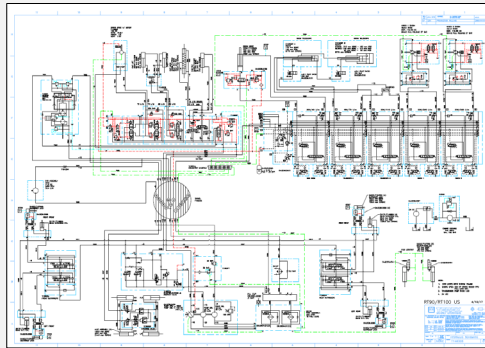
Summary

Project Name: Hydraulic schematic creation for Rough Terrain Cranes

Scope: Creation of new hydraulic schematic for Rough Terrain Cranes

Software: E3 Zuken

AutoCad schematic



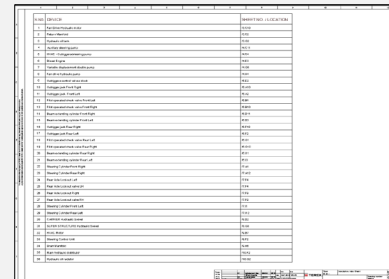
Input file

Output file

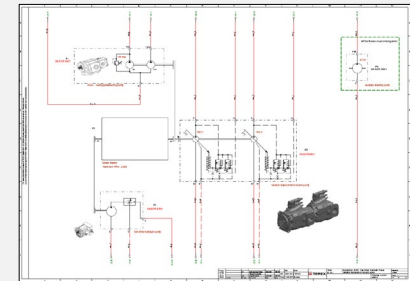
Cover Page



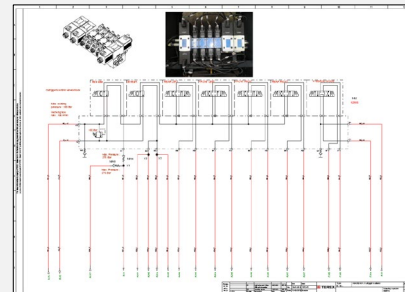
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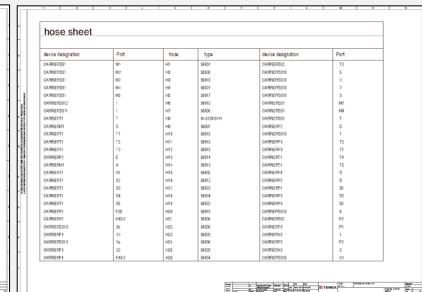
Schematic



Schematic



Hose List



| Device designation | Part | Flow | Type | Device designation | Part |
|--------------------|------|------|------|--------------------|------|
| CONV001 | 10 | 10 | MSD | CONV002 | 12 |
| CONV002 | 10 | 10 | MSD | CONV003 | 6 |
| CONV003 | 10 | 10 | MSD | CONV004 | 7 |
| CONV004 | 10 | 10 | MSD | CONV005 | 1 |
| CONV005 | 10 | 10 | MSD | CONV006 | 10 |
| CONV006 | 10 | 10 | MSD | CONV007 | 10 |
| CONV007 | 1 | 10 | MSD | CONV008 | 7 |
| CONV008 | 10 | 10 | MSD | CONV009 | 6 |
| CONV009 | 12 | 10 | MSD | CONV010 | 1 |
| CONV010 | 12 | 10 | MSD | CONV011 | 13 |
| CONV011 | 12 | 10 | MSD | CONV012 | 13 |
| CONV012 | 13 | 10 | MSD | CONV013 | 13 |
| CONV013 | 13 | 10 | MSD | CONV014 | 8 |
| CONV014 | 13 | 10 | MSD | CONV015 | 10 |
| CONV015 | 13 | 10 | MSD | CONV016 | 10 |
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| CONV099 | 13 | 10 | MSD | CONV100 | 10 |

- Creating symbols and components in E3 Database.
- Correction of symbols as per supplier data sheet.
- Creating Hoses in E3 Database with unique part number.
- Creating Hydraulic Schematic in E3 with standards.
- In E3 files generated in the format of Cover Page, Index Sheets, Schematic and Hose list