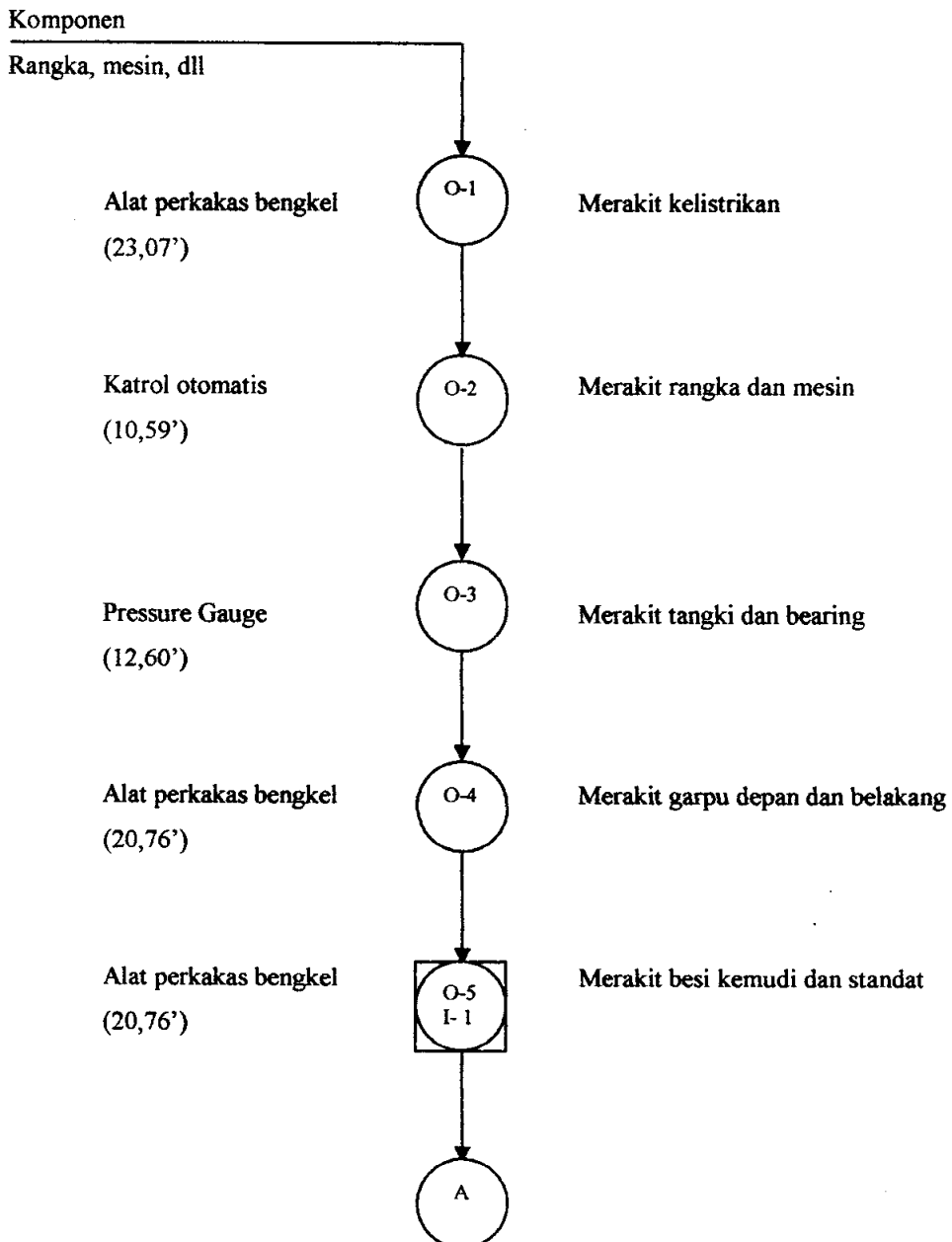


LAMPIRAN

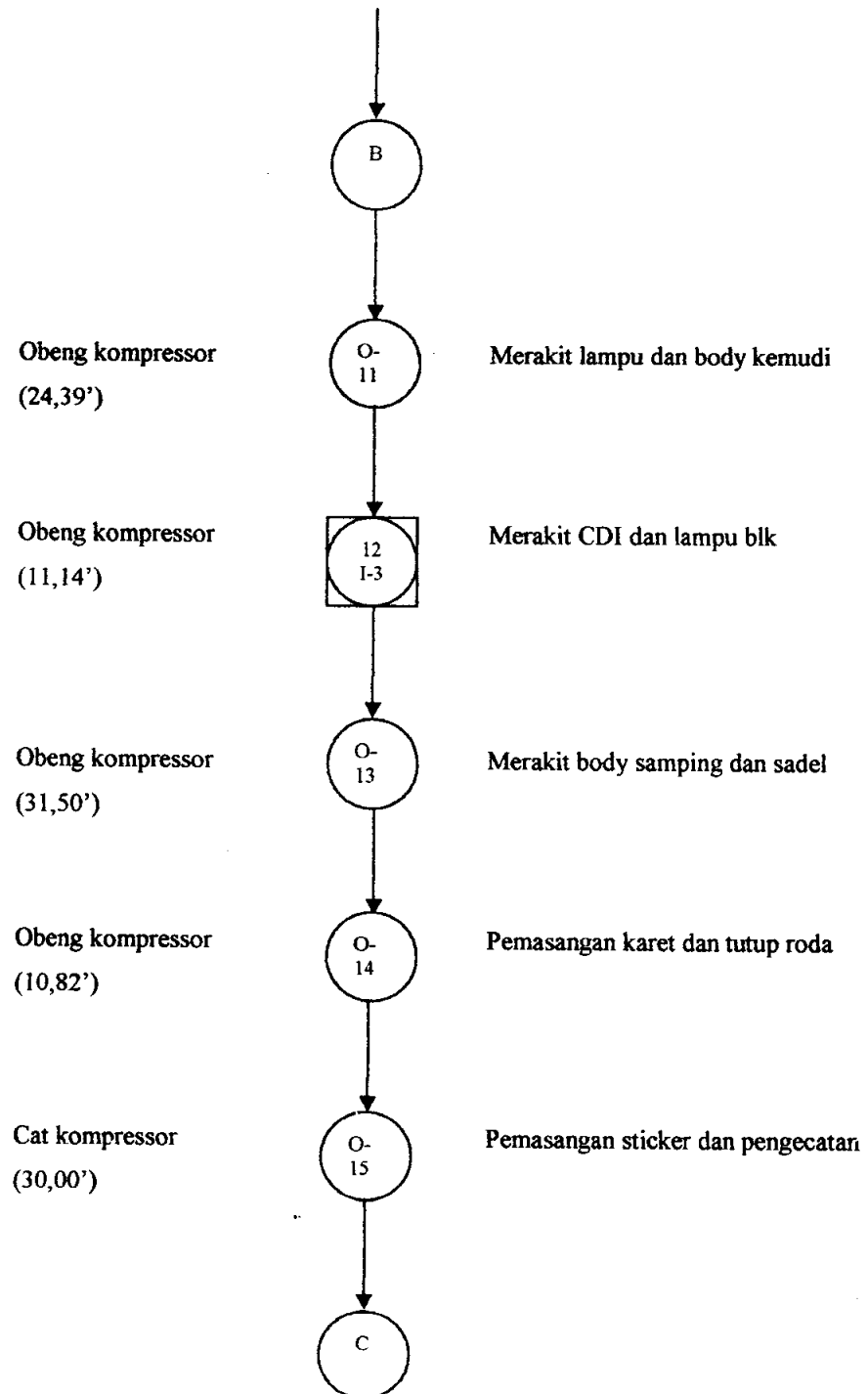
LAMPIRAN A

PETA PROSES OPERASI

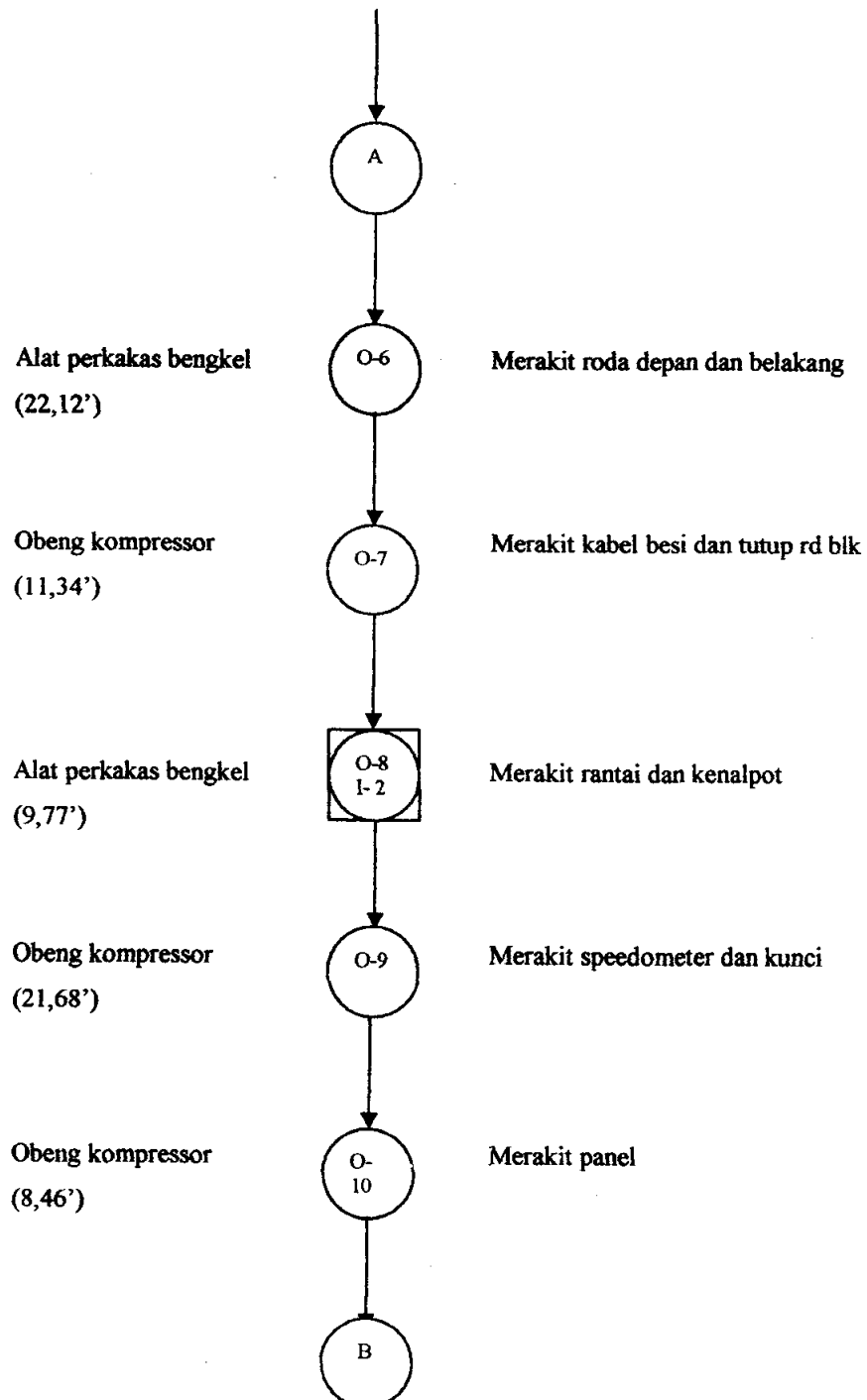
Halaman : 1 dari 4
Nama Obyek : Perakitan sepeda motor
No. Peta : 1
Dipetakan oleh : Oktobing
Tanggal dipetakan : 9 Oktober 2004



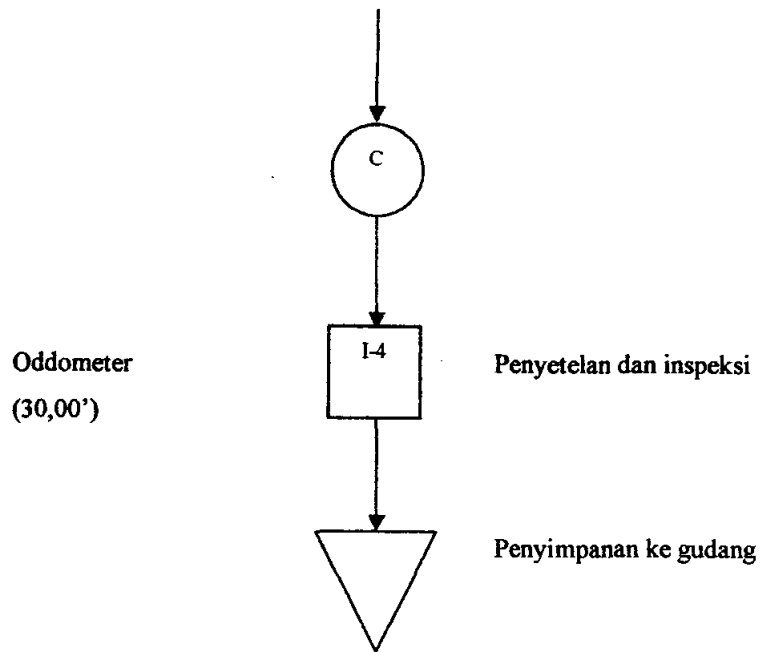
Halaman : 3 dari 4
Nama Obyek : Perakitan sepeda motor
No. Peta : 1
Dipetakan oleh : Oktobing
Tanggal dipetakan : 9 Oktober 2004



Halaman : 2 dari 4
Nama Obyek : Perakitan sepeda motor
No. Peta : 1
Dipetakan oleh : Oktobing
Tanggal dipetakan : 9 Oktober 2004



Halaman : 4 dari 4
Nama Obyek : Perakitan sepeda motor
No. Peta : 1
Dipetakan oleh : Oktobing
Tanggal dipetakan : 9 Oktober 2004



Jumlah Operasi : 15
Inspeksi : 4

Gambar 4.1 Skema OPC

LAMPIRAN B

DATA WAKTU TIAP ELEMEN (MENIT)

1	2	3	4	5	6	7	8
24.58	9.49	6.57	4.51	9.37	10.15	12.05	9.27
22.05	11.27	7.55	5.07	14.38	13.54	11.28	9.33
23.04	8.43	4.24	8.17	14.55	10.51	8.34	9.7
20.16	11.21	7.07	6.13	13.23	11.57	10.53	11.8
23.24	10.55	6.03	8.26	9.58	10.18	10.32	11.41
21.52	11.25	5.16	5.25	10.05	7.45	13.6	12.38
23.48	9.58	6.46	6.39	12.41	11.51	13.08	9.53
24.32	11.37	5.49	4.27	12.2	8.5	12.1	12.27
27.53	15.6	6.19	6.46	13.28	9.28	9.19	11.5
24.45	10.19	5.37	5.54	6.44	8.39	7.57	10.46
22.55	9.07	5.31	7.22	10.55	10.43	10.55	8.1
21.26	13.43	7.22	7.47	8.17	8.2	12.13	11.51
24.6	6.24	5.54	8.08	13.4	10.3	12.46	5.48
25.04	14.52	6.76	10.53	12.44	9.64	13.16	12.2
22.35	7.12	6.48	4.13	11.5	10.41	9.16	10.42
20.3	14.1	5.08	6.34	11.16	11.54	12.51	11.36
22.23	10.21	5.95	6.36	11.09	7.23	8.56	9.09
24.32	7.26	8.24	7.02	10.32	5.24	8.45	8.07
23.11	11.12	5.37	7.52	11.9	5.38	8.51	11.27
21.21	9.87	4.86	6.26	8.21	11.54	10.22	11.9

9	10	11	12	13	14	15	16
12.58	9.42	6.07	5.11	3.58	5.39	13.49	7.23
14.08	12.9	4.33	6.22	8.52	5.44	11.09	11
12.23	11.25	5.36	4.59	4.13	8.32	9.17	9.31
8.15	13.24	4.39	6.35	4.22	3.07	12.3	12.47
7.83	11.31	4.22	7.15	5.33	5.25	11.28	13.44
9.38	9.16	3.19	6.35	4.01	4.45	10.48	10.58
13.59	9.41	5.46	5.47	3.17	7.48	12.09	7.49
10.44	12.27	5.5	5.05	8.27	4.55	10.05	12.24
15.25	11.47	4.14	6.42	4.39	4.8	13.46	13.36
8.28	9.64	5.36	7.15	4.39	3.12	14.29	7.67
10.16	9.16	3.52	7.48	6.03	5.34	10.16	10.8
12.59	12.09	5.31	6.09	4.05	3.42	11.33	12.24
9.05	11.32	3.29	5.6	3.25	6.29	12.08	11.55
11.44	11.28	6.26	4.14	3.38	4.31	8.43	11.43
10.7	12.49	5.36	8.44	3.49	6.26	11.35	9.18
10.37	15.07	4.53	5.09	6.19	4.36	12.54	8.58

10.1	8.02	7.51	4.38	3.6	4.09	9.07	9.22
13.16	9.18	8.21	8.37	3.44	5.14	11.27	11.53
10.32	10.4	8.2	5.19	4.06	7.52	11.3	9.42
10.54	13.08	6.29	5.51	3.03	6.17	8.55	11.03

17	18	19	20	21	22	23	24
8.13	18.39	8.32	12.49	21.02	15.4	4.63	3.27
9.26	10.17	14.04	12.24	25.54	10.53	5.8	4.22
6.58	12.14	11.39	13.23	21.46	14.32	5.03	2.33
7.36	10.17	8.33	10.25	15.05	7.2	10.57	4.38
9.29	13.31	8.36	15.09	25.14	8.2	5.23	6.22
9.56	16.53	10.57	12.56	23.15	16.14	11.58	1.01
10.34	14.43	13.39	13.55	17.27	7.03	6.12	3.38
8.49	16.51	10.53	9.31	22.24	9.7	13.08	4.46
6.54	11.08	10.51	9.34	16.44	9.09	5.8	2.08
8.12	12.16	12.38	9.2	20.45	13.91	10.52	4.23
7.59	13.45	6.39	11.07	28.52	12.45	4.22	3.38
10.1	19.57	9.53	7.54	17.37	8.33	7.27	8.58
9.36	17.28	13.57	10.55	27.02	6.46	9.42	1.14
9.39	11.36	6.17	13.22	23.19	11.51	8.08	4.38
10.52	12.11	10.52	8.24	26.4	7.13	5.4	2.45
7.11	15.45	7.33	11.48	18.35	7.53	6.36	3.51
9.58	15.21	10.28	18.25	16.48	12.15	5.12	2.57
6.09	17.46	11.25	12.52	22.07	10.36	5.42	3.4
9.38	12.45	13.4	9.01	19.24	10.21	7.22	5.12
6.45	15.44	7.02	9.07	18.32	7.52	7.04	2.36

DATA WAKTU TIAP STASIUN (MENIT)

1	2	3	4	5	6	7
24.58	9.49	11.08	19.52	21.32	22	11.18
22.05	11.27	12.62	27.92	20.61	26.98	10.55
23.04	8.43	12.41	25.06	18.04	23.48	9.95
20.16	11.21	13.2	24.8	22.33	21.39	10.74
23.24	10.55	14.29	19.76	21.73	19.14	11.37
21.52	11.25	10.41	17.5	25.98	18.54	9.54
23.48	9.58	12.85	23.92	22.61	23	10.93
24.32	11.37	9.76	20.7	24.37	22.71	10.55
27.53	15.6	12.65	22.56	20.69	26.72	10.56
24.45	10.19	10.91	14.83	18.03	17.92	12.51
22.55	9.07	12.53	20.98	18.65	19.32	11
21.26	13.43	14.69	16.37	23.64	24.68	11.4
24.6	6.24	13.62	23.7	17.94	20.37	8.89
25.04	14.52	17.29	22.08	25.36	22.72	10.4
22.35	7.12	10.61	21.91	19.58	23.19	13.8
20.3	14.1	11.42	22.7	23.87	25.44	9.62
22.23	10.21	12.31	18.32	17.65	18.12	11.89
24.32	7.26	15.26	15.56	16.52	22.34	16.58
23.11	11.12	12.89	17.28	19.78	20.72	13.39
21.21	9.87	11.12	19.75	22.12	23.62	11.8

8	9	10	11	12	13	14
8.97	20.72	8.13	26.71	12.49	36.42	7.9
13.96	22.09	9.26	24.21	12.24	36.07	10.02
12.45	18.48	6.58	23.53	13.23	35.78	7.36
7.29	24.77	7.36	18.5	10.25	22.25	14.95
10.58	24.72	9.29	21.67	15.09	33.34	11.45
8.46	21.06	9.53	27.1	12.56	39.29	12.59
10.65	19.58	10.34	27.82	13.55	24.3	9.5
12.82	22.29	8.49	27.04	9.31	31.94	17.54
9.19	26.82	6.54	21.59	9.34	25.53	7.88
7.51	21.96	8.12	24.54	9.2	34.36	14.75
11.37	20.96	7.59	19.84	11.07	40.97	7.6
7.47	23.57	10.1	29.1	7.54	25.7	15.85
9.54	23.63	9.36	30.85	10.55	33.48	10.56
7.69	19.86	9.39	17.53	13.22	34.7	12.46
9.75	20.53	10.52	22.63	8.24	33.53	7.85
10.55	21.12	7.11	22.78	11.48	25.88	9.87
7.69	18.29	9.58	25.49	18.25	28.63	7.69
8.58	22.8	6.09	28.71	12.52	32.43	8.82
11.58	20.72	9.38	25.85	9.01	29.45	12.34
9.2	19.58	6.45	22.46	9.07	25.84	9.4

LAMPIRAN C

PROGRAM SIMULASI AWAL

```
*****
*
*      Formatted Listing of Model:
*
*      E:\Kerjaan Kampus\skripsi\PERMODELAN AWAL.MOD
*
*****
```

```
Time Units:      Minutes
Distance Units:  Meters
```

```
*****
*      Locations
*
*****
```

Name	Cap	Units	Stats	Rules	Cost
St_1	1	1	Time Series	Oldest, , First	
St_2	1	1	Time Series	Oldest, , First	
St_3	1	1	Time Series	Oldest, , First	
St_4	1	1	Time Series	Oldest, , First	
St_5	1	1	Time Series	Oldest, , First	
St_6	1	1	Time Series	Oldest, , First	
St_7	1	1	Time Series	Oldest, , First	
St_8	1	1	Time Series	Oldest, , First	
St_9	1	1	Time Series	Oldest, , First	
St_10	1	1	Time Series	Oldest, , First	

St_11	1	1	Time Series Oldest,	, First
St_12	1	1	Time Series Oldest,	, First
St_13	1	1	Time Series Oldest,	, First
St_14	1	1	Time Series Oldest,	, First
Loc0	2	1	Time Series Oldest,	FIFO,
Loc1	4	1	Time Series Oldest,	FIFO,
Loc2	1	1	Time Series Oldest,	FIFO,
Loc3	1	1	Time Series Oldest,	FIFO,
Loc4	1	1	Time Series Oldest,	FIFO,
Loc5	1	1	Time Series Oldest,	FIFO,
Loc6	1	1	Time Series Oldest,	FIFO,
Loc7	1	1	Time Series Oldest,	FIFO,
Loc8	1	1	Time Series Oldest,	FIFO,
Loc9	1	1	Time Series Oldest,	FIFO,
Loc10	1	1	Time Series Oldest,	FIFO,
Loc11	1	1	Time Series Oldest,	FIFO,
Loc12	2	1	Time Series Oldest,	FIFO,
Loc13	1	1	Time Series Oldest,	FIFO,
Loc14	1	1	Time Series Oldest,	FIFO,
Kabel	100	1	Time Series Oldest,	, First
Mesin	30	1	Time Series Oldest,	, First
Tangki_bearing	150	1	Time Series Oldest,	, First
Garpu_depan_belakang	100	1	Time Series Oldest,	, First
Standart_kemudi	100	1	Time Series Oldest,	, First
Roda_depan_belakang	60	1	Time Series Oldest,	, First
ttp_rd_blk_kabel_besi	100	1	Time Series Oldest,	, First
kenalpot_rantai	100	1	Time Series Oldest,	, First
speedometer_kunci	100	1	Time Series Oldest,	, First
Panel	50	1	Time Series Oldest,	, First
Lampu_body_kemudi	100	1	Time Series Oldest,	, First
cdi_lampu_blk	100	1	Time Series Oldest,	, First
Sadel_body_samping	90	1	Time Series Oldest,	, First
Karet_ttp_rd_depan	100	1	Time Series Oldest,	, First

 *
 * Entities

Name	Speed (mpm)	Stats	Cost
Sepeda_motor	50	Time Series	
b_kabel	50	Time Series	
b_mesin	50	Time Series	
b_tangki_bearing	50	Time Series	
b_garpu_dp_blk	50	Time Series	
b_std_kemudi	50	Time Series	
b_roda_dp_blk	50	Time Series	
b_kabel_ttpdr_blk	50	Time Series	
b_kenalpot_rantai	50	Time Series	
b_speedo_kunci	50	Time Series	
b_panel	50	Time Series	
b_lampu_body_kemudi	50	Time Series	
b_cdi_lmp_blk	50	Time Series	
b_sadel_bdy_samping	50	Time Series	
b_karet_ttp_rd_dpn	50	Time Series	

 *
 * Resources

Name	Units	Stats	Res	Search	Ent	Path	Motion	Cost
Operator1	1	By Unit	None	None	Oldest		Empty: 50 mpm Full: 50 mpm	
Operator2	1	By Unit	None	None	Oldest		Empty: 50 mpm Full: 50 mpm	

Operator3	1	By Unit	None	Oldest	Empty: 50 mpm Full: 50 mpm
Operator4	1	By Unit	None	Oldest	Empty: 50 mpm Full: 50 mpm
Operator5	1	By Unit	None	Oldest	Empty: 50 mpm Full: 50 mpm
Operator6	1	By Unit	None	Oldest	Empty: 50 mpm Full: 50 mpm
Operator7	1	By Unit	None	Oldest	Empty: 50 mpm Full: 50 mpm
Operator8	1	By Unit	None	Oldest	Empty: 50 mpm Full: 50 mpm
Operator9	1	By Unit	None	Oldest	Empty: 50 mpm Full: 50 mpm
Operator10	1	By Unit	None	Oldest	Empty: 50 mpm Full: 50 mpm
Operator11	1	By Unit	None	Oldest	Empty: 50 mpm Full: 50 mpm
Operator12	1	By Unit	None	Oldest	Empty: 50 mpm Full: 50 mpm
Operator13	1	By Unit	None	Oldest	Empty: 50 mpm Full: 50 mpm
Operator14	1	By Unit	None	Oldest	Empty: 50 mpm

Full: 50 mpm

* Processing *

Process			Routing	
Entity	Location	Operation	Blk Output	Destination Rule

Sepeda_motor	Loc0		1 Sepeda_motor	St_1 FIRST 1
b_kabel	Kabel		1 b_kabel	St_1 JOIN 1
b_kabel	St_1	JOIN Sepeda_motor b_kabel		
Sepeda_motor	St_1	GET Operator1	1 Sepeda_motor	Loc1 FIRST 1
		WAIT W(3.399, 23.07)		
		FREE Operator1		
Sepeda_motor	Loc1		1 Sepeda_motor	Loc1 FIRST 1
b_mesin	Mesin		1 Sepeda_motor	St_2 FIRST 1
b_mesin	St_2		1 b_mesin	St_2 JOIN 1
		JOIN Sepeda_motor b_mesin		
Sepeda_motor	St_2	GET Operator2	1 Sepeda_motor	St_2 FIRST 1
		WAIT N(10.594, 2.46)		
		FREE Operator2		
Sepeda_motor	Loc2		1 Sepeda_motor	Loc2 FIRST 1
b_tangki_bearing	Tangki_bearing		1 Sepeda_motor	St_3 FIRST 1
b_tangki_bearing	St_3	JOIN Sepeda_motor b_tangki_bearing	1 b_tangki_bearing	St_3 JOIN 1
Sepeda_motor	St_3	GET Operator3	1 Sepeda_motor	St_3 FIRST 1

Sepeda_motor	Loc3	1	Sepeda_motor	Loc3	FIRST 1
b_garpu_dp_blk	Garpu_depan_belakang	1	Sepeda_motor	St_4	FIRST 1
b_garpu_dp_blk	St_4	1	b_garpu_dp_blk	St_4	JOIN 1
Sepeda_motor	St_4	1	JOIN Sepeda_motor b_garpu_dp_blk	St_4	FIRST 1
			GET Operator4		
			WAIT N(20.79, 3.468)		
			FREE Operator4		
Sepeda_motor	Loc4	1	Sepeda_motor	Loc4	FIRST 1
b_std_kemudi	Standart_kemudi	1	Sepeda_motor	St_5	FIRST 1
b_std_kemudi	St_5	1	b_std_kemudi	St_5	JOIN 1
Sepeda_motor	St_5	1	JOIN Sepeda_motor b_std_kemudi	St_5	FIRST 1
			GET Operator5		
			WAIT N(21.041, 2.75)		
			FREE Operator5		
Sepeda_motor	Loc5	1	Sepeda_motor	Loc5	FIRST 1
b_roda_dp_blk	Roda_depan_belakang	1	Sepeda_motor	St_6	FIRST 1
b_roda_dp_blk	St_6	1	b_roda_dp_blk	St_6	JOIN 1
Sepeda_motor	St_6	1	JOIN Sepeda_motor b_roda_dp_blk	St_6	FIRST 1
			GET Operator6		
			WAIT N(22.14, 2.693)		
			FREE Operator6		
Sepeda_motor	Loc6	1	Sepeda_motor	Loc6	FIRST 1
b_kabel_ttpdr_blk	ttp_rd_blk_kabel_besi	1	Sepeda_motor	St_7	FIRST 1
b_kabel_ttpdr_blk	St_7	1	b_kabel_ttpdr_blk	St_7	JOIN 1
Sepeda_motor	St_7	1	JOIN Sepeda_motor b_kabel_ttpdr_blk	St_7	FIRST 1
			GET Operator7		
			WAIT N(11.33, 2.86)		
			FREE Operator7		

Sepeda_motor	Loc7	1 Sepeda_motor	Loc7	FIRST 1
b_kenalpot_rantai	kenalpot_rantai	1 Sepeda_motor	St_8	FIRST 1
b_kenalpot_rantai	St_8	1 b_kenalpot_rantai	St_8	JOIN 1
Sepeda_motor	St_8	JOIN Sepeda_motor b_kenalpot_rantai	St_8	FIRST 1
		GET Operator8		
		WAIT L(9.77, 2.9143)		
		FREE Operator8		
Sepeda_motor	Loc8	1 Sepeda_motor	Loc8	FIRST 1
b_speedo_kunci	speedometer_kunci	1 Sepeda_motor	St_9	FIRST 1
b_speedo_kunci	St_9	1 b_speedo_kunci	St_9	JOIN 1
Sepeda_motor	St_9	JOIN Sepeda_motor b_speedo_kunci	St_9	FIRST 1
		GET Operator9		
		WAIT N(21.677, 2.208)		
		FREE Operator9		
Sepeda_motor	Loc9	1 Sepeda_motor	Loc9	FIRST 1
b_panel	Panel	1 Sepeda_motor	St_10	FIRST 1
b_panel	Loc10	1 b_panel	Loc10	JOIN 1
Sepeda_motor	St_10	JOIN Sepeda_motor b_panel	St_10	FIRST 1
		GET Operator10		
		WAIT W(1.05, 21.68)		
		FREE Operator10		
Sepeda_motor	Loc10	1 Sepeda_motor	Loc10	FIRST 1
b_lampu_body_kemudi	Lampu_body_kemudi	1 Sepeda_motor	St_11	FIRST 1
b_lampu_body_kemudi	St_11	1 b_lampu_body_kemudi	St_11	JOIN 1
Sepeda_motor	St_11	JOIN Sepeda_motor b_lampu_body_kemudi	St_11	FIRST 1
		GET Operator11		
		WAIT N(24.39, 3.563)		

FREE Operator11

Sepeda_motor	Loc11	1	Sepeda_motor	Loc11	FIRST 1
b_cdi_imp_blk	cdi_lampu_blk	1	Sepeda_motor	St_12	FIRST 1
b_cdi_imp_blk	St_12	1	b_cdi_imp_blk	St_12	JOIN 1
Sepeda_motor	St_12	1	JOIN Sepeda_motor b_cdi_imp_blk	St_12	FIRST 1
			GET Operator12		
			WAIT E(11.41)		
			FREE Operator12		

Sepeda_motor	Loc12	1	Sepeda_motor	Loc12	FIRST 1
b_sadel_bdy_samping	Sadel_body_samping	1	Sepeda_motor	St_13	FIRST 1
b_sadel_bdy_samping	St_13	1	b_sadel_bdy_samping	St_13	JOIN 1
Sepeda_motor	St_13	1	JOIN Sepeda_motor b_sadel_bdy_samping	St_13	FIRST 1
			GET Operator13		
			WAIT N(31.49, 5.69)		
			FREE Operator13		

Sepeda_motor	Loc13	1	Sepeda_motor	Loc13	FIRST 1
b_karet_ttp_rd_dpn	Karet_ttp_rd_depan	1	Sepeda_motor	St_14	FIRST 1
b_karet_ttp_rd_dpn	St_14	1	b_karet_ttp_rd_dpn	St_14	JOIN 1
Sepeda_motor	St_14	1	JOIN Sepeda_motor b_karet_ttp_rd_dpn	St_14	FIRST 1
			GET Operator14		
			WAIT L(10.82, 2.3176)		
			FREE Operator14		

Sepeda_motor	Loc14	1	Sepeda_motor	Loc14	FIRST 1
		1	Sepeda_motor	EXIT	FIRST 1

* Arrivals *****
*

Entity	Location	Qty each	First Time Occurrences	Frequency	Logic
Sepeda_motor	Loc0	2	0	inf	30
b_kabel	Kabel	10	0	inf	60
b_mesin	Mesin	10	0	inf	60
b_tangki_bearing	Tangki_bearing	10	0	inf	60
b_garpu_dp_blk	Garpu_depan_belakang	10	0	inf	60
b_std_kemudi	Standart_kemudi	10	0	inf	60
b_roda_dp_blk	Roda_depan_belakang	10	0	inf	60
b_kabel_ttpdr_blk	ttp_rd_blk_kabel_besi	10	0	inf	60
b_kenalpot_rantai	kenalpot_rantai	10	0	inf	60
b_speedo_kunci	speedometer_kunci	10	0	inf	60
b_panel	Panel	10	0	inf	60
b_lampu_body_kemudi	Lampu_body_kemudi	10	0	inf	60
b_cdi_lmp_blk	cdi_lampu_blk	10	0	inf	60
b_sadel_bdy_samping	Sadel_body_samping	10	0	inf	60
b_karet_ttp_rd_dpn	Karet_ttp_rd_depan	10	0	inf	60
Sepeda_motor	Loc1	4	0	1	1
Sepeda_motor	Loc2	1	0	1	1
Sepeda_motor	Loc3	1	0	1	1
Sepeda_motor	Loc4	1	0	1	1
Sepeda_motor	Loc5	1	0	1	1
Sepeda_motor	Loc6	1	0	1	1
Sepeda_motor	Loc7	1	0	1	1
Sepeda_motor	Loc8	1	0	1	1
Sepeda_motor	Loc9	1	0	1	1
Sepeda_motor	Loc10	1	0	1	1
Sepeda_motor	Loc11	1	0	1	1
Sepeda_motor	Loc12	2	0	1	1
Sepeda_motor	Loc13	1	0	1	1

* Shift Assignments *

Locations	Resources	Shift Files	Priorities	Disable Logic
	Operator1	E:\Kerjaan Kampus\skripsi\wakt	99,99,99,99	No
	Operator10			
	Operator11			
	Operator12			
	Operator13			
	Operator14			
	Operator2			
	Operator3			
	Operator4			
	Operator5			
	Operator6			
	Operator7			
	Operator8			
	Operator9			

* External Files *

ID	Type	File Name	Prompt
(null)	Shift	E:\Kerjaan Kampus\skripsi\waktu	kerja.sft

HASIL SIMULASI AWAL

General Report

Output from E:\Kerjaan Kampus\skripsi\PERMODELAN AWAL.MOD [coba 1]
Date: Dec/02/2004 Time: 02:35:55 AM

Scenario : Normal Run
Replication : 25 of 25
Simulation Time : 9 hr

LOCATIONS

Location Name	Scheduled Hours	Capacity	Total Entries	Average Minutes Per Entry	Average Contents	Maximum Contents	Current Contents	% Util
St 1	9	1	23	23.475652	0.999889	1	1	99.99
St 2	9	1	25	16.668920	0.771709	1	1	77.17
St 3	9	1	24	22.438375	0.997261	1	1	99.73
St 4	9	1	23	23.476087	0.999907	1	1	99.99
St 5	9	1	22	23.979955	0.976961	1	1	97.70
St 6	9	1	21	25.295905	0.98373	1	1	98.37
St 7	9	1	20	17.511700	0.648581	1	1	64.86
St 8	9	1	19	21.302684	0.749539	1	1	74.95
St 9	9	1	18	29.997222	0.999907	1	1	99.99
St 10	9	1	18	29.144222	0.971474	1	1	97.15
St 11	9	1	17	31.112059	0.979454	1	1	97.95
St 12	9	1	16	30.702125	0.909693	1	1	90.97
St 13	9	1	15	35.993333	0.999815	1	1	99.98

St 14	9	1	15	14.216800	0.394911	1	1	39.49
Loc0	9	2	25	31.053560	1.43766	2	2	71.88
Loc1	9	4	26	7.442385	0.358337	4	1	8.96
Loc2	9	1	25	14.614000	0.676574	1	1	67.66
Loc3	9	1	24	22.061250	0.9805	1	1	98.05
Loc4	9	1	23	16.771913	0.714359	1	1	71.44
Loc5	9	1	22	7.828545	0.318941	1	1	31.89
Loc6	9	1	21	3.922714	0.15255	1	1	15.25
Loc7	9	1	20	8.273150	0.306413	1	1	30.64
Loc8	9	1	19	26.416737	0.929478	1	1	92.95
Loc9	9	1	18	19.478444	0.649281	1	0	64.93
Loc10	9	1	18	19.592444	0.653081	1	1	65.31
Loc11	9	1	17	23.112235	0.727607	1	1	72.76
Loc12	9	2	17	62.780529	1.97642	2	2	98.82
Loc13	9	1	15	0.050000	0.00138889	1	0	0.14
Loc14	9	1	14	0.050000	0.0012963	1	0	0.13
Kabel	9	100	100	270.000000	50	100	100	50.00
Mesin	9	30	30	480.000000	26.6667	30	30	88.89
Tangki bearing	9	150	100	270.000000	50	100	100	33.33
Garpu depan belakang	9	100	100	270.000000	50	100	100	50.00
Standart kemudi	9	100	100	270.000000	50	100	100	50.00
Roda depan belakang	9	60	60	390.000000	43.3333	60	60	72.22
ttp rd blk kabel besi	9	100	100	270.000000	50	100	100	50.00
kenalpot rantai	9	100	100	270.000000	50	100	100	50.00
speedometer kunci	9	100	100	270.000000	50	100	100	50.00
Panel	9	50	50	420.000000	38.8889	50	50	77.78
Lampu body kemudi	9	100	100	270.000000	50	100	100	50.00
cdi lampu blk	9	100	100	270.000000	50	100	100	50.00
Sadel body samping	9	90	90	300.000000	50	90	90	55.56
Karet ttp rd depan	9	100	100	270.000000	50	100	100	50.00

LOCATION STATES BY PERCENTAGE (Multiple Capacity)

Location Name	Scheduled Hours	% Empty	Partially Occupied	% Full	% Down
Loc0	9	5.88	44.48	49.64	0.00
Loc1	9	72.29	27.67	0.04	0.00
Loc12	9	0.00	2.36	97.64	0.00
Kabel	9	0.00	100.00	0.00	0.00
Mesin	9	0.00	22.22	77.78	0.00
Tangki bearing	9	0.00	100.00	0.00	0.00
Garpu depan belakang	9	0.00	100.00	0.00	0.00
Standart kemudi	9	0.00	100.00	0.00	0.00
Roda depan belakang	9	0.00	55.56	44.44	0.00
ttp rd blk kabel besi	9	0.00	100.00	0.00	0.00
kenalpot rantai	9	0.00	100.00	0.00	0.00
speedometer kunci	9	0.00	100.00	0.00	0.00
Panel	9	0.00	44.44	55.56	0.00
Lampu body kemudi	9	0.00	100.00	0.00	0.00
cdi lampu blk	9	0.00	100.00	0.00	0.00
Sadel body sampling	9	0.00	88.89	11.11	0.00
Karet ttp rd depan	9	0.00	100.00	0.00	0.00

LOCATION STATES BY PERCENTAGE (Single Capacity)

Location Name	Scheduled Hours	% Operation	% Setup	% Idle	% Waiting	% Blocked	% Down
St 1	9	88.88	0.00	0.01	11.11	0.00	0.00
St 2	9	45.93	0.00	22.83	10.25	20.99	0.00
St 3	9	54.52	0.00	0.27	9.69	35.51	0.00
St 4	9	80.70	0.00	0.01	11.11	8.18	0.00
St 5	9	83.08	0.00	2.30	11.11	3.51	0.00
St 6	9	83.48	0.00	1.63	11.11	3.79	0.00
St 7	9	40.53	0.00	35.14	9.55	14.78	0.00
St 8	9	33.20	0.00	25.05	9.28	32.47	0.00

St 9	9	69.81	0.00	0.01	9.28	20.90	0.00
St 10	9	67.84	0.00	2.85	9.28	20.02	0.00
St 11	9	69.11	0.00	2.05	9.28	19.55	0.00
St 12	9	17.18	0.00	9.03	9.28	64.50	0.00
St 13	9	88.87	0.00	0.02	11.11	0.00	0.00
St 14	9	30.22	0.00	60.51	9.27	0.00	0.00
Loc2	9	0.78	0.00	32.34	0.00	66.88	0.00
Loc3	9	0.22	0.00	1.95	0.00	97.83	0.00
Loc4	9	0.26	0.00	28.56	0.00	71.18	0.00
Loc5	9	0.20	0.00	68.11	0.00	31.69	0.00
Loc6	9	0.19	0.00	84.75	0.00	15.06	0.00
Loc7	9	0.19	0.00	69.36	0.00	30.46	0.00
Loc8	9	0.18	0.00	7.05	0.00	92.77	0.00
Loc9	9	0.17	0.00	35.07	0.00	64.76	0.00
Loc10	9	0.17	0.00	34.69	0.00	65.14	0.00
Loc11	9	0.19	0.00	27.24	0.00	72.57	0.00
Loc13	9	0.14	0.00	99.86	0.00	0.00	0.00
Loc14	9	0.13	0.00	99.87	0.00	0.00	0.00

RESOURCES

Resource Name	Units	Scheduled Hours	Number Of Times Used	Average Minutes Per		% Util
				Usage		
Operator1	1	8	23	20.866957		99.99
Operator2	1	8	25	9.920920		51.67
Operator3	1	8	24	12.267542		61.34
Operator4	1	8	23	18.948000		90.79
Operator5	1	8	22	20.391182		93.46
Operator6	1	8	21	21.465238		93.91
Operator7	1	8	20	10.944400		45.60
Operator8	1	8	19	9.435632		37.35

Operator9	1	8	18	20.941556	78.53
Operator10	1	8	18	20.352667	76.32
Operator11	1	8	17	21.952176	77.75
Operator12	1	8	16	5.799750	19.33
Operator13	1	8	15	31.993333	99.98
Operator14	1	8	15	10.878133	33.99

RESOURCE STATES BY PERCENTAGE

Resource Name	Scheduled Hours	% In Use	% Idle	% Down
Operator1	8	99.99	0.01	0.00
Operator2	8	51.67	48.33	0.00
Operator3	8	61.34	38.66	0.00
Operator4	8	90.79	9.21	0.00
Operator5	8	93.46	6.54	0.00
Operator6	8	93.91	6.09	0.00
Operator7	8	45.60	54.40	0.00
Operator8	8	37.35	62.65	0.00
Operator9	8	78.53	21.47	0.00
Operator10	8	76.32	23.68	0.00
Operator11	8	77.75	22.25	0.00
Operator12	8	19.33	80.67	0.00
Operator13	8	99.98	0.02	0.00
Operator14	8	33.99	66.01	0.00

FAILED ARRIVALS

Entity Name	Location Name	Total Failed
Sepeda motor	Loc0	13

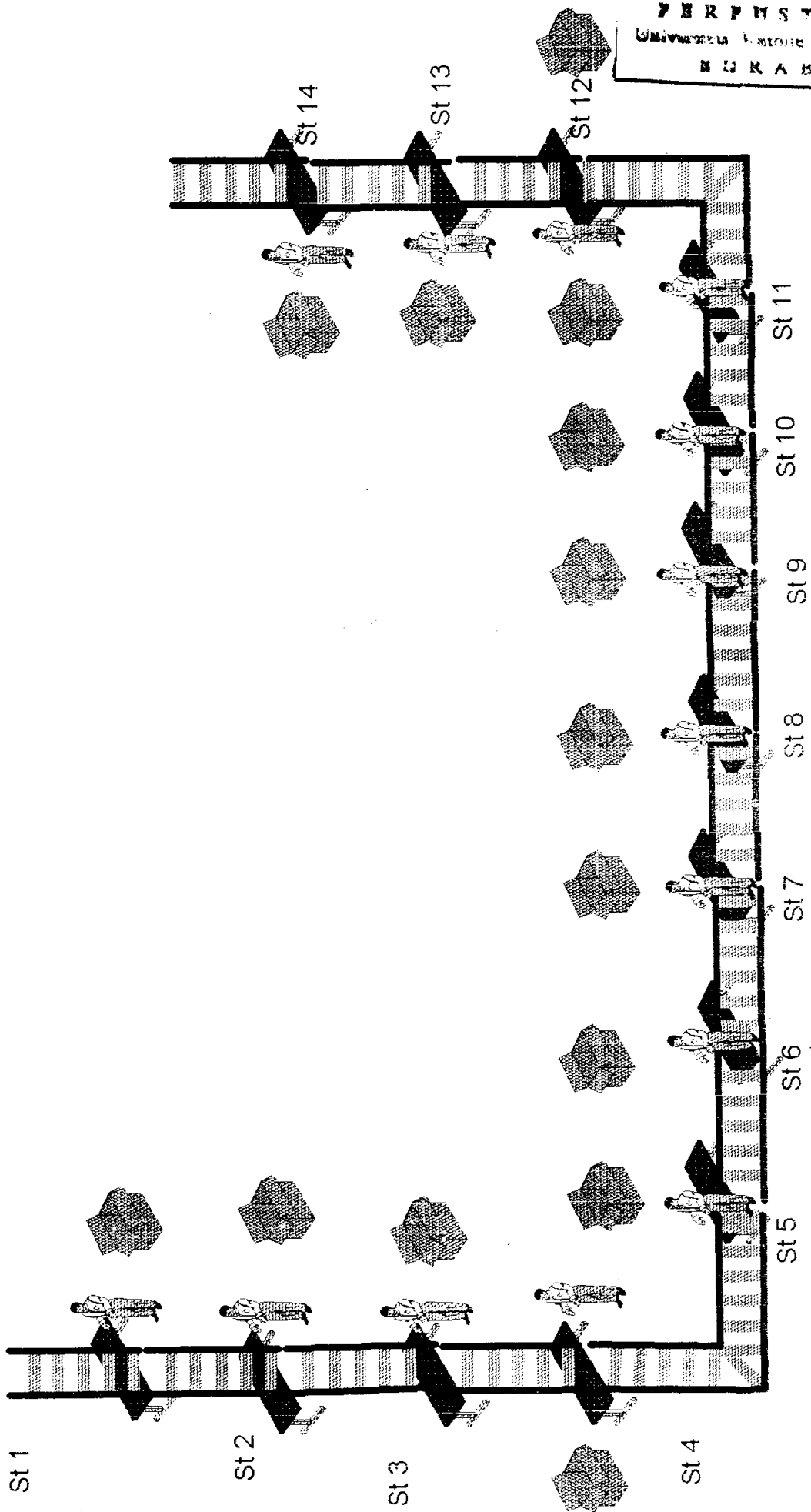
Sepeda motor	Loc1	0
Sepeda motor	Loc2	0
Sepeda motor	Loc3	0
Sepeda motor	Loc4	0
Sepeda motor	Loc5	0
Sepeda motor	Loc6	0
Sepeda motor	Loc7	0
Sepeda motor	Loc8	0
Sepeda motor	Loc9	0
Sepeda motor	Loc10	0
Sepeda motor	Loc11	0
Sepeda motor	Loc12	0
Sepeda motor	Loc13	0
b kabel	Kabel	0
b mesin	Mesin	70
b tangki bearing	Tangki bearing	0
b garpu dp blk	Garpu depan belakang	0
b std kemudi	Standart kemudi	0
b roda dp blk	Roda depan belakang	40
b kabel ttpdr blk	ttp rd blk kabel besi	0
b kenalpot rantai	kenalpot rantai	0
b speedo kunci	speedometer kunci	0
b panel	Panel	50
b lampu body kemudi	Lampu body kemudi	0
b cdi lmp blk	cdi lampu blk	0
b sadel bdy samping	Sadel body samping	10
b karet ttp rd dpn	Karet ttp rd depan	0

ENTITY ACTIVITY

Entity Name	Total Exits	Current Quantity In System	Average Minutes In System	Average Minutes In Move Logic	Average Minutes Wait For Res, etc.	Average Minutes In Operation	Average Minutes Blocked
Sepeda motor	15	28	252.430929	0.000000	41.777714	121.960429	88.692786
b kabel	0	100	-	-	-	-	-
b mesin	0	30	-	-	-	-	-
b tangki bearing	0	100	-	-	-	-	-
b garpu dp blk	0	100	-	-	-	-	-
b std kemudi	0	100	-	-	-	-	-
b roda dp blk	0	60	-	-	-	-	-
b kabel ttpdr blk	0	100	-	-	-	-	-
b kenalpot rantai	0	100	-	-	-	-	-
b speedo kunci	0	100	-	-	-	-	-
b panel	0	50	-	-	-	-	-
b lampu body kemudi	0	100	-	-	-	-	-
b cdi lmp blk	0	100	-	-	-	-	-
b sadel bdy sampling	0	90	-	-	-	-	-
b karet ttp rd dpn	0	100	-	-	-	-	-

ENTITY STATES BY PERCENTAGE

Entity Name	% In Move Logic	% Wait For Res, etc.	% In Operation	% Blocked
Sepeda motor	0.00	16.55	48.31	35.14



LAMPIRAN D
DATA OUTPUT SIMULASI DAN REAL (UNIT)

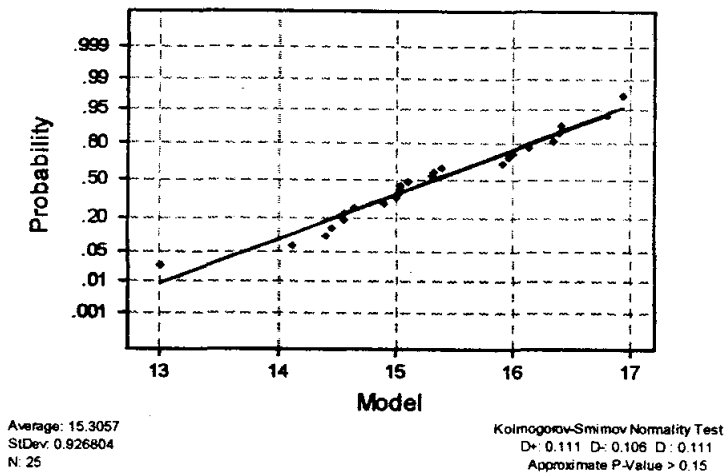
Model	Real
15	15
16	16
13	15
14	15
14	16
16	16
15	16
15	15
15	15
14	14
15	15
16	16
15	15
16	14
17	15
15	14
15	17
16	16
16	14
15	16
15	15
15	15
17	14
16	16
15	15

LAMPIRAN E

HASIL TES NORMAL

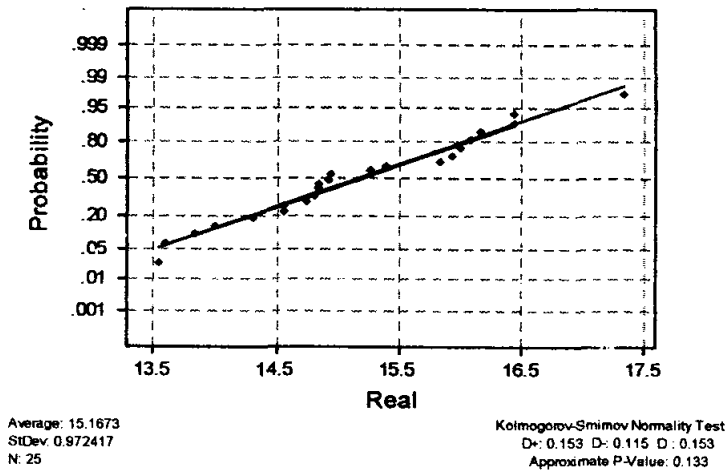
Normal tes Stasiun 14 model

Normal Probability Plot



Normal tes Stasiun 14 real

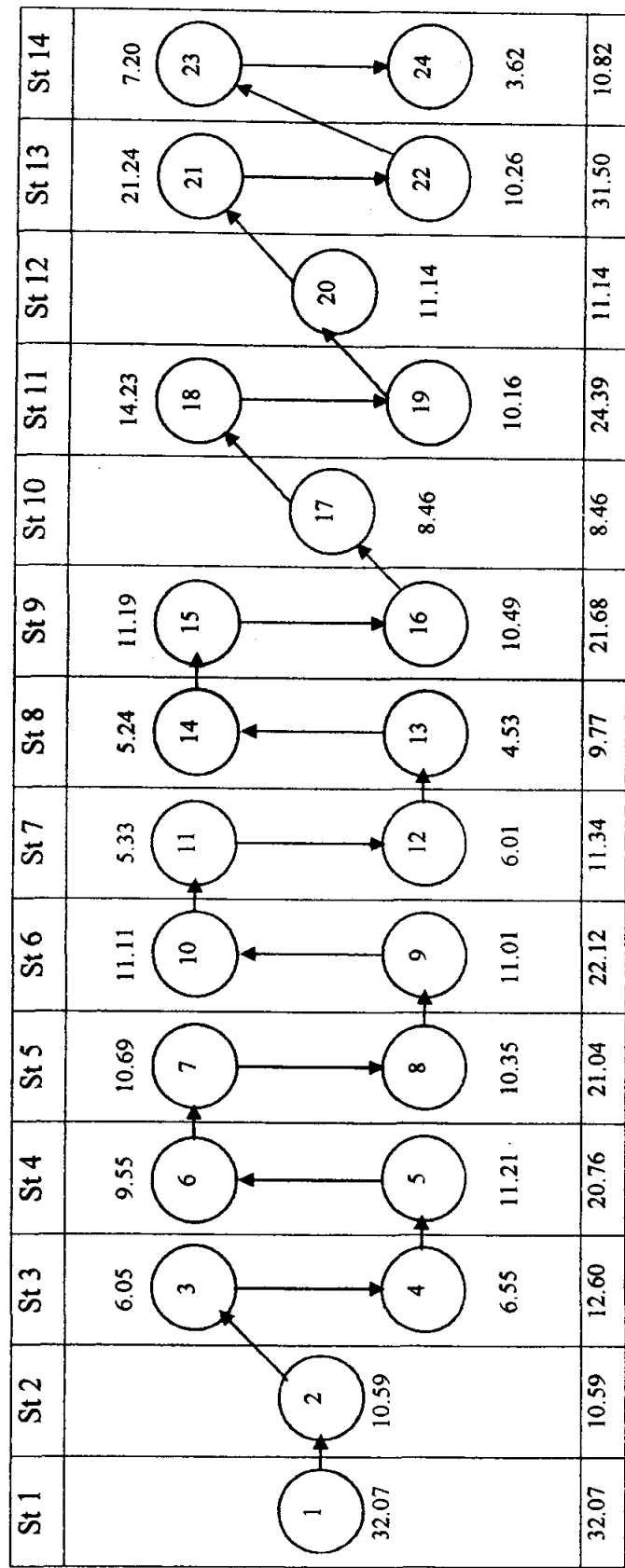
Normal Probability Plot



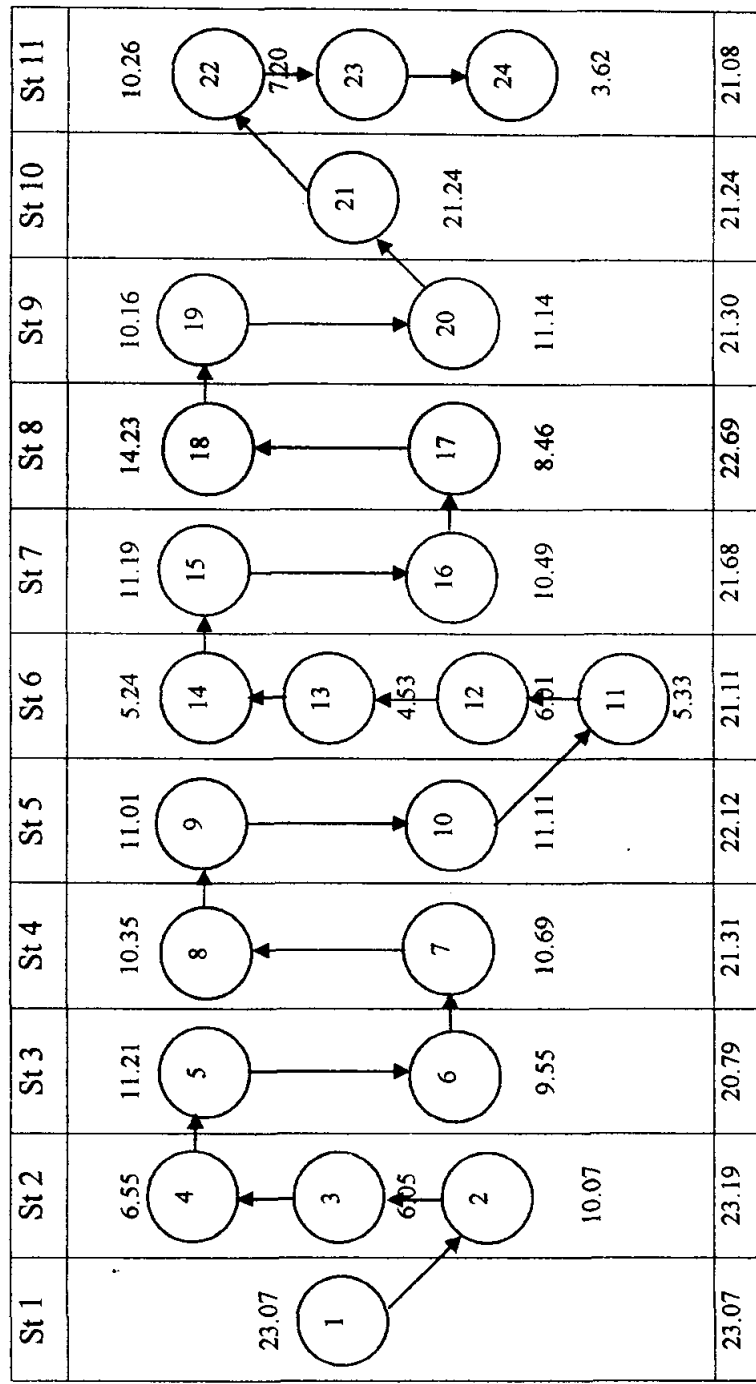
LAMPIRAN F

PRECEDENCE DIAGRAM

Precedence Diagram proses perakitan awal



Precedence Diagram proses perakitan usulan



INDONESIA
KEMENTERIAN
PERINDUSTRIAN
DAFTAR PUSTAKA

LAMPIRAN G

DATA WAKTU DAN DISTRIBUSI MODEL USULAN

Data waktu tiap stasiun usulan (menit)

St 1	St 2	St 3	St 4	St 5	St 6
24.58	20.57	19.52	21.32	22	20.15
22.05	23.89	27.92	20.61	26.98	24.51
23.04	20.84	25.06	18.04	23.48	22.4
20.16	24.41	24.8	22.33	21.39	18.03
23.24	24.84	19.76	21.73	19.14	21.95
21.52	21.66	17.5	25.98	18.54	18
23.48	22.43	23.92	22.61	23	21.58
24.32	21.13	20.7	24.37	22.71	23.37
27.53	28.25	22.56	20.69	26.72	19.75
24.45	21.1	14.83	18.03	17.92	20.02
22.55	21.6	20.98	18.65	19.32	22.37
21.26	28.12	16.37	23.64	24.68	18.87
24.6	19.86	23.7	17.94	20.37	18.43
25.04	31.81	22.08	25.36	22.72	18.09
22.35	17.73	21.91	19.58	23.19	23.55
20.3	25.52	22.7	23.87	25.44	20.17
22.23	22.52	18.32	17.65	18.12	19.58
24.32	22.52	15.56	16.52	22.34	25.16
23.11	24.01	17.28	19.78	20.72	24.97
21.21	20.99	19.75	22.12	23.62	21

St 7	St 8	St 9	St 10	St 11
20.72	26.52	20.81	21.02	23.3
22.09	19.43	26.28	25.54	20.55
18.48	18.72	24.62	21.46	21.68
24.77	17.53	18.58	15.05	22.15
24.72	22.6	23.45	25.14	19.65
21.06	26.09	23.13	23.15	28.73
19.58	24.77	26.94	17.27	16.53
22.29	25	19.84	22.24	27.24
26.82	17.62	19.85	16.44	16.97
21.96	20.28	21.58	20.45	28.66
20.96	21.04	17.46	28.52	20.05
23.57	29.67	17.07	17.37	24.18
23.63	26.64	24.12	27.02	17.02
19.86	20.75	19.39	23.19	23.97
20.53	22.63	18.76	26.4	14.98

21.12	22.56	18.81	18.35	17.4
18.29	24.79	28.53	16.48	19.84
22.8	23.55	23.77	22.07	19.18
20.72	21.83	22.41	19.24	22.55
19.58	21.89	16.09	18.32	16.92

Distribusi tiap stasiun kerja adalah sebagai berikut :

- Stasiun 1

Distribution	Anderson-Darling (adj)
Weibull	0.047
Lognormal base e	0.759
Exponential	7.965
Normal	0.782

Table of MTTF

Distribution	Mean	Standard Error	95% Normal Lower	CI Upper
Weibull	23.0787	0.08427	22.0289	23.9277
Lognormal base e	23.0666	0.38876	22.3171	23.8413
Exponential	23.0670	5.15794	14.8818	35.7541
Normal	23.0670	0.39191	22.2989	23.8351

Data berdistribusi : Weibull

S-value : 3,399

Mean : 23,07

- Stasiun 2

Distribution ID Plot

Variable: St 2

Goodness of Fit

Distribution	Anderson-Darling (adj)
Weibull	1.502
Lognormal base e	1.013
Exponential	7.188
Normal	1.211

Table of MTTF

Distribution	Mean	Standard Error	95% Normal Lower	CI Upper
Weibull	23.0328	0.88431	21.3632	24.8329
Lognormal base e	23.1845	0.69364	21.8641	24.5847
Exponential	23.1900	5.18544	14.9612	35.9447
Normal	23.1900	0.72128	21.7763	24.6037

Data berdistribusi : Lognormal

Mean : 23,19

Standartd deviation : 3,309

- Stasiun 3

Distribution ID Plot

Variable: St 3

Goodness of Fit

Distribution	Anderson-Darling (adj)
Weibull	0.676
Lognormal base e	0.718
Exponential	6.679
Normal	0.667

Table of MTTF

Distribution	Mean	Standard Error	95% Normal Lower	CI Upper
Weibull	20.7314	0.80625	19.2099	22.3734
Lognormal base e	20.7652	0.77560	19.2993	22.3424
Exponential	20.7610	4.64230	13.3941	32.1798
Normal	20.7610	0.75590	19.2795	22.2425

Data berdistribusi : Normal

Mean : 20,76

Standartd deviation : 3,468

- Stasiun 4

Distribution ID Plot

Variable: St 4

Goodness of Fit

Distribution	Anderson-Darling (adj)
Weibull	0.794
Lognormal base e	0.785
Exponential	7.163
Normal	0.779

Table of MTTF

Distribution	Mean	Standard Error	95% Normal Lower	CI Upper
Weibull	21.0169	0.65197	19.7771	22.3344
Lognormal base e	21.0416	0.60506	19.8885	22.2615
Exponential	21.0410	4.70491	13.5748	32.6138
Normal	21.0410	0.60022	19.8646	22.2174

Data berdistribusi : Normal

Mean : 21,07

Standartd deviation : 2,754

- Stasiun 5

Distribution ID Plot

Variable: St 5

Goodness of Fit

Distribution	Anderson-Darling (adj)
Weibull	0.798
Lognormal base e	0.790
Exponential	7.297
Normal	0.760

Table of MTTF

Distribution	Mean	Standard Error	95% Normal Lower	CI Upper
Weibull	22.0831	0.64286	20.8584	23.3797
Lognormal base e	22.1209	0.59317	20.9883	23.3145
Exponential	22.1200	4.94618	14.2709	34.2862
Normal	22.1200	0.58711	20.9693	23.2707

Data berdistribusi : Normal Mean : 22,12

Standartd deviation : 2,693

• Stasiun 6

Distribution ID Plot

Variable: St 6

Goodness of Fit

Distribution Anderson-Darling (adj)

Weibull 0.966

Lognormal base e 0.858

Exponential 7.419

Normal 0.896

Table of MTTF

Distribution	Mean	Standard Error	95% Normal Lower	CI Upper
Weibull	21.0602	0.57777	19.9577	22.2236
Lognormal base e	21.0969	0.51171	20.1174	22.1241
Exponential	21.0975	4.71754	13.6112	32.7013
Normal	21.0975	0.51423	20.0896	22.1054

Data berdistribusi : Lognormal Mean : 21,10

Standartd deviation : 2,359

• Stasiun 7

Distribution ID Plot

Variable: St 7

Goodness of Fit

Distribution Anderson-Darling (adj)

Weibull 1.058

Lognormal base e 0.750

Exponential 7.620

Normal 0.825

Table of MTTF

Distribution	Mean	Standard Error	95% Normal Lower	CI Upper
Weibull	21.5804	0.58026	20.4726	22.7482
Lognormal base e	21.6764	0.47428	20.7665	22.6262
Exponential	21.6775	4.84724	13.9854	33.6003
Normal	21.6775	0.48141	20.7339	22.6211

Data berdistribusi : Lognormal Mean : 21,68

Standartd deviation : 2,208

- Stasiun 8

Distribution ID Plot

Variable: St 8

Goodness of Fit

Distribution Anderson-Darling (adj)

Weibull 0.773

Lognormal base e 0.690

Exponential 7.027

Normal 0.694

Table of MTTF

Distribution	Mean	Standard Error	95% Lower	Normal Upper	CI
Weibull	22.6339	0.78008	21.1555	24.2156	
Lognormal base e	22.6964	0.70916	21.3482	24.1298	
Exponential	22.6955	5.07487	14.6422	35.1782	
Normal	22.6955	0.70318	21.3173	24.0737	

Data berdistribusi : Normal

Mean : 22,69

Standartd deviation : 3,226

- Stasiun 9

Distribution ID Plot

Variable: St 9

Goodness of Fit

Distribution Anderson-Darling (adj)

Weibull 0.846

Lognormal base e 0.746

Exponential 6.763

Normal 0.794

Table of MTTF

Distribution	Mean	Standard Error	95% Lower	Normal Upper	CI
Weibull	21.5319	0.83273	19.9601	23.2275	
Lognormal base e	21.5741	0.75879	20.1370	23.1137	
Exponential	21.5745	0.72420	13.9189	33.4407	
Normal	21.5745	0.75777	20.0893	23.0597	

Data berdistribusi : Exponential

Mean : 21,57

- Stasiun 10

Distribution ID Plot

Variable: St 10

Goodness of Fit

Distribution Anderson-Darling (adj)

Weibull 0.813

Lognormal base e 0.772

Exponential 6.427

Normal 0.796

Table of MTTF

Distribution	Mean	Standard Error	95% Lower	Normal Upper	CI
Weibull	21.2230	0.91036	19.5117	23.0844	
Lognormal base e	21.2377	0.86604	19.6063	23.0047	

Exponential	21.2360	3.74851	13.7006	32.9160
Normal	21.2360	0.85473	19.5608	22.9112

Data berdistribusi : Normal Mean : 21,24

Standartd deviation : 3,477

• Stasiun 11

Distribution ID Plot

Variable: St 11

Goodness of Fit

Distribution Anderson-Darling (adj)

Weibull 1.008

Lognormal base e 0.814

Exponential 6.393

Normal 0.922

Table of MTF

Distribution	Mean	Standard Error	95% Normal Lower	CI Upper
Weibull	21.0285	0.97235	19.2065	23.0233
Lognormal base e	21.0743	0.87470	19.4278	22.8604
Exponential	21.0775	4.71307	13.5983	32.6703
Normal	21.0775	0.88197	19.3489	22.8061

Data berdistribusi : Lognormal Mean : 21,08

Standartd deviation : 4,046

LAMPIRAN H

PROGRAM SIMULASI USULAN

```
*****
*
*          Formatted Listing of Model:
*          E:\Kerjaan Kampus\skripsi\PERMODELAN USULAN.MOD
*
*****
```

Time Units: Minutes
Distance Units: Meters

```
*****
*          Locations
*
*****
```

Name	Cap	Units	Stats	Rules	Cost
St_1	1	1	Time Series	Oldest, , First	
St_2	1	1	Time Series	Oldest, , First	
St_3	1	1	Time Series	Oldest, , First	
St_4	1	1	Time Series	Oldest, , First	
St_5	1	1	Time Series	Oldest, , First	
St_6	1	1	Time Series	Oldest, , First	
St_7	1	1	Time Series	Oldest, , First	
St_8	1	1	Time Series	Oldest, , First	
St_9	1	1	Time Series	Oldest, , First	
St_10	1	1	Time Series	Oldest, , First	
St_11	1	1	Time Series	Oldest, , First	

Loc0	2	1	Time Series Oldest,	FIFO,
Loc1	1	1	Time Series Oldest,	FIFO,
Loc2	3	1	Time Series Oldest,	FIFO,
Loc3	1	1	Time Series Oldest,	FIFO,
Loc4	1	1	Time Series Oldest,	FIFO,
Loc5	1	1	Time Series Oldest,	FIFO,
Loc6	1	1	Time Series Oldest,	FIFO,
Loc7	1	1	Time Series Oldest,	FIFO,
Loc8	2	1	Time Series Oldest,	FIFO,
Loc9	1	1	Time Series Oldest,	FIFO,
Loc10	1	1	Time Series Oldest,	FIFO,
Loc11	2	1	Time Series Oldest,	FIFO,
Kabel	100	1	Time Series Oldest,	, First
Mesin tangki bearing	180	1	Time Series Oldest,	, First
Garpu depan_blk	100	1	Time Series Oldest,	, First
Standart kemudi	100	1	Time Series Oldest,	, First
Roda depan belakang	60	1	Time Series Oldest,	, First
ttp_rd_blk_kabel_besi_rantai_k	200	1	Time Series Oldest,	, First
speedometer_kunci	100	1	Time Series Oldest,	, First
Panel lampu	100	1	Time Series Oldest,	, First
body_kemudi_cdi_lampu_blk	100	1	Time Series Oldest,	, First
Body sampling	50	1	Time Series Oldest,	, First
Sadel karet_tutup_rd_dpn	200	1	Time Series Oldest,	, First

***** Entities *****

Name	Speed (mpm)	Stats	Cost
Sepeda_motor	50	Time Series	
b_kabel	50	Time Series	
b_mesin_tangki_bearing	50	Time Series	
b_garpu_dp_blk	50	Time Series	

Operator7	1	By Unit	None	Oldest	Empty: 50 mpn Full: 50 mpn
Operator8	1	By Unit	None	Oldest	Empty: 50 mpn Full: 50 mpn
Operator9	1	By Unit	None	Oldest	Empty: 50 mpn Full: 50 mpn
Operator10	1	By Unit	None	Oldest	Empty: 50 mpn Full: 50 mpn
Operator11	1	By Unit	None	Oldest	Empty: 50 mpn Full: 50 mpn

* Processing *

Process

Routing

Entity	Destination Rule	Move Logic	Location	Operation	Blk Output
Sepeda_motor			Loc0		
St_1	FIRST 1				1 Sepeda_motor
b_kabel			Kabel		1 b_kabel
St_1	JOIN 1		St_1	JOIN Sepeda_motor b_kabel	
b_kabel					1 Sepeda_motor
Loc1	FIRST 1		St_1	GET Operator1	
Sepeda_motor					

Loc1	FIRST 1		
Sepeda_motor			
St_2	FIRST 1	Loc1	
b_mesin_tangki_bearing			1 Sepeda_motor
b_mesin_tangki_bearing		Mesin_tangki_bearing	
b_mesin_tangki_bearing		St_2 JOIN 1	1 Sepeda_motor
		St_2	1
			JOIN Sepeda_motor b_mesin_tangki_bearing
			1 Sepeda_motor
St_2	FIRST 1		
Sepeda_motor		St_2	
			GET Operator2
			WAIT L(23.19, 3.309)
			FREE Operator2
			1 Sepeda_motor
Loc2	FIRST 1		
Sepeda_motor			
St_3	FIRST 1	Loc2	
b_garpu_dp_blk			1 Sepeda_motor
St_3 JOIN 1		Garpu_depan_blk	
b_garpu_dp_blk			1 b_garpu_dp_blk
		St_3	
			JOIN Sepeda_motor b_garpu_dp_blk
			1 Sepeda_motor
St_3	FIRST 1		
Sepeda_motor		St_3	
			GET Operator3
			WAIT N(20.76, 3.468)
			FREE Operator3
			1 Sepeda_motor
Loc3	FIRST 1		
Sepeda_motor			
St_4	FIRST 1	Loc3	
b_std_kemudi			1 Sepeda_motor
St_4 JOIN 1		Standart_kemudi	
b_std_kemudi			1 b_std_kemudi
		St_4	
			JOIN Sepeda_motor b_std_kemudi

St_4	FIRST 1				1	Sepeda_motor
Sepeda_motor						
		St_4		GET Operator4		
				WAIT N(21.04, 2.754)		
				FREE Operator4		
Loc4	FIRST 1				1	Sepeda_motor
Sepeda_motor						
St_5	FIRST 1				1	Sepeda_motor
b_roda_dp_blk						
St_5	JOIN 1				1	b_roda_dp_blk
b_roda_dp_blk						
		St_5		JOIN Sepeda_motor b_roda_dp_blk	1	Sepeda_motor
St_5	FIRST 1					
Sepeda_motor						
		St_5		GET Operator5		
				WAIT N(22.12, 2.693)		
				FREE Operator5		
Loc5	FIRST 1				1	Sepeda_motor
Sepeda_motor						
St_6	FIRST 1				1	Sepeda_motor
b_kabel_ttpdr_blk_kenalpot_ran_ttp_rd_blk_kabel_besi_rantai_k						
b_kabel_ttpdr_blk_kenalpot_ran St_6						
b_kabel_ttpdr_blk_kenalpot_ran St_6						
b_kabel_ttpdr_blk_kenalpot_rantai						
		St_6		JOIN Sepeda_motor		
St_6	FIRST 1				1	Sepeda_motor
Sepeda_motor						
		St_6		GET Operator6		
				WAIT L(21.10, 2.359)		
				FREE Operator6		
Loc6	FIRST 1				1	Sepeda_motor
Sepeda_motor						
St_7	FIRST 1				1	Sepeda_motor

b_speedo_kunci		1	b_speedo_kunci
st_7 JOIN 1			
b_speedo_kunci			JOIN Sepeda_motor b_speedo_kunci
			1 Sepeda_motor
st_7 FIRST 1			
Sepeda_motor			GET Operator7
			WAIT L(21.68, 2.208)
			FREE Operator7
Loc7 FIRST 1			1 Sepeda_motor
Sepeda_motor			1 Sepeda_motor
st_8 FIRST 1			
b_panel_lampu			1 b_panel_lampu
st_8 JOIN 1			
b_panel_lampu			JOIN Sepeda_motor b_panel_lampu
			1 Sepeda_motor
st_8 FIRST 1			
Sepeda_motor			GET Operator8
			WAIT N(22.69, 3.226)
			FREE Operator8
Loc8 FIRST 1			1 Sepeda_motor
Sepeda_motor			1 Sepeda_motor
st_9 FIRST 1			
b_body_kemudi_cdi_lmp_blk			1
b_body_kemudi_cdi_lmp_blk			body_kemudi_cdi_lampu_blk
b_body_kemudi_cdi_lmp_blk			JOIN 1
			st_9
			st_9
st_9 FIRST 1			
Sepeda_motor			JOIN Sepeda_motor b_body_kemudi_cdi_lmp_blk
			1 Sepeda_motor
Loc9 FIRST 1			
			GET Operator9
			WAIT E(21.57)
			FREE Operator9
			1 Sepeda_motor

Sepeda_motor	Loc0	2	0	inf	20
b_kabel	Kabel	10	0	inf	60
b_mesin_tangki_bearing	Mesin_tangki_bearing	10	0	inf	60
b_garpu_dp_blk	Garpu_depan_blk	10	0	inf	60
b_std_kemudi	Standart_kemudi	10	0	inf	60
b_roda_dp_blk	Roda_depan_belakang	10	0	inf	60
b_kabel_ttpdr_blk_kenalpot_ran	ttp_rd_blk_kabel_besi_rantai_k	10	0	inf	60
b_speedo_kunci	speedometer_kunci	10	0	inf	60
b_panel_lampu	Panel_lampu	10	0	inf	60
b_body_kemudi_cdi_lmp_blk	body_kemudi_cdi_lampu_blk	10	0	inf	60
b_body_samping	Body_samping	10	0	inf	60
b_sadel_karet_ttp_dpn	Sadel_karet_tutup_rd_dpn	10	0	inf	60
Sepeda_motor	Loc1	1	0	1	1
Sepeda_motor	Loc2	3	0	1	1
Sepeda_motor	Loc3	1	0	1	1
Sepeda_motor	Loc4	1	0	1	1
Sepeda_motor	Loc5	1	0	1	1
Sepeda_motor	Loc6	1	0	1	1
Sepeda_motor	Loc7	1	0	1	1
Sepeda_motor	Loc8	2	0	1	1
Sepeda_motor	Loc9	1	0	1	1
Sepeda_motor	Loc10	1	0	1	1

***** Shift Assignments *****
*

Locations	Resources	Shift Files	Priorities	Disable Logic
Operator1	E:\Kerjaan Kampus\skripsi\wakt	99,99,99,99	No	
Operator10				
Operator11				

Operator2
Operator3
Operator4
Operator5
Operator6
Operator7
Operator8
Operator9

*
***** External Files *****

ID	Type	File Name	Prompt
(null)	Shift	E:\Kerjaan Kampus\skripsi\waktu kerja.sft	

HASIL SIMULASI USULAN

General Report
Output from E:\Kerjaan Kampus\skripsi\PERMODELAN USULAN.MOD [coba 1]
Date: Dec/02/2004 Time: 02:39:10 AM

Scenario : Normal Run
Replication : 25 of 25
Simulation Time : 9 hr

LOCATIONS

Location Name	Scheduled Hours	Capacity	Total Entries	Average Minutes Per Entry	Average Contents	Maximum Contents	Current Contents
St 1	9	1	21	25.711429	0.999889	1	1
99.99							
St 2	9	1	21	25.712190	0.999919	1	1
99.99							
St 3	9	1	22	24.529455	0.999348	1	1
99.93							
St 4	9	1	22	22.889909	0.932552	1	1
93.26							
St 5	9	1	22	24.147000	0.983767	1	1
98.38							
St 6	9	1	22	23.320273	0.950085	1	1
95.01							

St 7	9	1	21	24.807619	0.964741	1	1
96.47							
St 8	9	1	20	26.505650	0.981691	1	1
98.17							
St 9	9	1	21	22.232429	0.864594	1	1
86.46							
St 10	9	1	21	24.010762	0.933752	1	1
93.38							
St 11	9	1	21	24.512857	0.953278	1	1
95.33							
Loc0	9	2	23	38.040435	1.62024	2	2
81.01							
Loc1	9	1	21	20.699286	0.804972	1	0
80.50							
Loc2	9	3	23	19.062826	0.811935	3	1
27.06							
Loc3	9	1	22	2.143909	0.0873444	1	0
8.73							
Loc4	9	1	22	4.685909	0.190907	1	0
19.09							
Loc5	9	1	22	2.069455	0.0843111	1	0
8.43							
Loc6	9	1	22	2.579182	0.105078	1	1
10.51							
Loc7	9	1	21	14.690619	0.571302	1	1
57.13							
Loc8	9	2	21	9.833857	0.382428	2	0
19.12							
Loc9	9	1	21	12.090286	0.470178	1	0
47.02							
Loc10	9	1	21	9.017476	0.35068	1	0
35.07							
Loc11	9	2	20	0.060000	0.00222222	1	0
0.11							

Kabel	9	100	100	270.000000	50	100	100
50.00							100
Mesin tangki bearing	9	180	100	270.000000	50	100	100
27.78							
Garpu depan blk	9	100	100	270.000000	50	100	100
50.00							
Standart kemudi	9	100	100	270.000000	50	100	100
50.00							
Roda depan belakang	9	60	60	390.000000	43.3333	60	60
72.22							
ttp rd blk kabel besi rantai knp	9	200	100	270.000000	50	100	100
25.00							
speedometer kunci	9	100	100	270.000000	50	100	100
50.00							
Panel lampu	9	100	100	270.000000	50	100	100
50.00							
body kemudi cdi lampu blk	9	100	100	270.000000	50	100	100
50.00							
Body samping	9	50	50	420.000000	38.8889	50	50
77.78							
Sadel karet tutup rd dpn	9	200	100	270.000000	50	100	100
25.00							

LOCATION STATES BY PERCENTAGE (Multiple Capacity)

Location Name	Scheduled Hours	% Partially Occupied			% Full		% Down	
		Empty	Partially Occupied		Full		Down	
Loc0	9	0.31	37.36		62.33		0.00	
Loc2	9	40.34	59.63		0.02		0.00	
Loc8	9	68.54	24.67		6.79		0.00	
Loc11	9	99.78	0.22		0.00		0.00	
Kabel	9	0.00	100.00		0.00		0.00	

Mesin tangki bearing	9	0.00	100.00	0.00	0.00
Garpu depan blk	9	0.00	100.00	0.00	0.00
Standart kemudi	9	0.00	100.00	0.00	0.00
Roda depan belakang	9	0.00	55.56	44.44	0.00
ttp rd blk kabel besi rantai knp	9	0.00	100.00	0.00	0.00
speedometer kunci	9	0.00	100.00	0.00	0.00
Panel lampu	9	0.00	100.00	0.00	0.00
body kemudi cdi lampu blk	9	0.00	100.00	0.00	0.00
Body sampling	9	0.00	44.44	55.56	0.00
Sadel karet tutup rd dpn	9	0.00	100.00	0.00	0.00

LOCATION STATES BY PERCENTAGE (Single Capacity)

Location Name	Scheduled Hours	% Operation	% Setup	% Idle	% Waiting	% Blocked	% Down
St 1	9	79.46	0.00	0.01	10.90	9.62	0.00
St 2	9	88.88	0.00	0.01	11.11	0.00	0.00
St 3	9	88.82	0.00	0.07	11.11	0.00	0.00
St 4	9	82.14	0.00	6.74	11.11	0.00	0.00
St 5	9	87.69	0.00	1.62	10.69	0.00	0.00
St 6	9	83.90	0.00	4.99	11.11	0.00	0.00
St 7	9	83.99	0.00	3.53	10.54	1.94	0.00
St 8	9	87.06	0.00	1.83	11.11	0.00	0.00
St 9	9	73.34	0.00	13.54	8.26	4.86	0.00
St 10	9	82.26	0.00	6.62	11.11	0.00	0.00
St 11	9	84.22	0.00	4.67	11.11	0.00	0.00
Loc1	9	0.17	0.00	19.50	0.00	80.33	0.00
Loc3	9	0.18	0.00	91.27	0.00	8.56	0.00
Loc4	9	0.18	0.00	80.91	0.00	18.91	0.00
Loc5	9	0.18	0.00	91.57	0.00	8.25	0.00
Loc6	9	0.18	0.00	89.49	0.00	10.33	0.00
Loc7	9	0.17	0.00	42.87	0.00	56.96	0.00
Loc9	9	0.19	0.00	52.98	0.00	46.82	0.00

Loc10 9 0.19 0.00 64.93 0.00 34.87 0.00

RESOURCES

Resource Name	Units	Scheduled Hours	Number Of Times Used	Average Minutes Per Usage	% Util
Operator1	1	8	21	20.432952	89.39
Operator2	1	8	21	22.855048	99.99
Operator3	1	8	22	21.802182	99.93
Operator4	1	8	22	20.162636	92.41
Operator5	1	8	22	21.523136	98.65
Operator6	1	8	22	20.593000	94.38
Operator7	1	8	21	21.597714	94.49
Operator8	1	8	20	23.505650	97.94
Operator9	1	8	21	18.859524	82.51
Operator10	1	8	21	21.153619	92.55
Operator11	1	8	21	21.655714	94.74

RESOURCE STATES BY PERCENTAGE

Resource Name	Scheduled Hours	% In Use	% Idle	% Down
Operator1	8	89.39	10.61	0.00
Operator2	8	99.99	0.01	0.00
Operator3	8	99.93	0.07	0.00
Operator4	8	92.41	7.59	0.00
Operator5	8	98.65	1.35	0.00
Operator6	8	94.38	5.62	0.00
Operator7	8	94.49	5.51	0.00

Operator8	8	97.94	2.06	0.00
Operator9	8	82.51	17.49	0.00
Operator10	8	92.55	7.45	0.00
Operator11	8	94.74	5.26	0.00

FAILED ARRIVALS

Entity Name	Location Name	Total Failed
Sepeda motor	Loc0	33
Sepeda motor	Loc1	0
Sepeda motor	Loc2	0
Sepeda motor	Loc3	0
Sepeda motor	Loc4	0
Sepeda motor	Loc5	0
Sepeda motor	Loc6	0
Sepeda motor	Loc7	0
Sepeda motor	Loc8	0
Sepeda motor	Loc9	0
Sepeda motor	Loc10	0
b kabel	Kabel	0
b mesin tangki bearing	Mesin tangki bearing	0
b garpu dp blk	Garpu depan blk	0
b std kemudi	Standart kemudi	0
b roda dp blk	Roda depan belakang	40
b kabel ttpdr blk kenalpot rantai	ttp rd blk kabel besi rantai knp	0
b speedo kunci	speedometer kunci	0
b panel lampu	Panel lampu	0
b body kemudi cdi lmp blk	body kemudi cdi lampu blk	0
b body samping	Body samping	50
b sadel karet ttp dpn	Sadel karet tutup rd dpn	0

ENTITY ACTIVITY

Entity Name	Total Exits	Current Quantity In System	Average Minutes In System	Average Minutes In Move Logic	Average Minutes Wait For Res, etc.	Average Minutes In Operation	Average Minutes Blocked
Sepeda motor	20	16	261.220750	0.000000	24.409600	166.928950	69.882200
b kabel	0	100	-	-	-	-	-
b mesin tangki bearing	0	100	-	-	-	-	-
b garpu dp blk	0	100	-	-	-	-	-
b std kemudi	0	100	-	-	-	-	-
b roda dp blk	0	60	-	-	-	-	-
b kabel ttpdr blk kenalpot rantai	0	100	-	-	-	-	-
b speedo kunci	0	100	-	-	-	-	-
b panel lampu	0	100	-	-	-	-	-
b body kemudi cdi lmp blk	0	100	-	-	-	-	-
b body sampling	0	50	-	-	-	-	-
b sadel karet ttp dpn	0	100	-	-	-	-	-

ENTITY STATES BY PERCENTAGE

Entity Name	% In Move Logic	% Wait For Res, etc.	% In Operation	% Blocked
Sepeda motor	0.00	9.34	63.90	26.75

