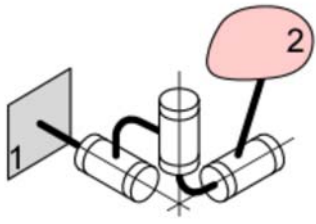
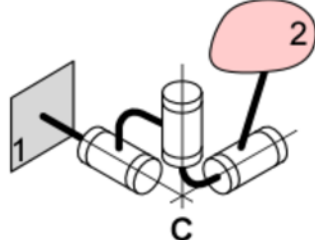


Meccanica Applicata alle Macchine

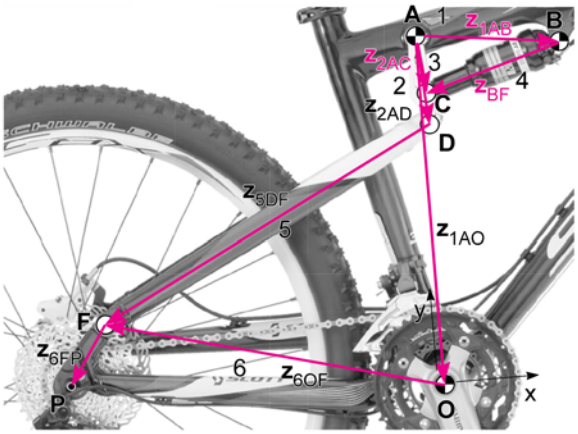
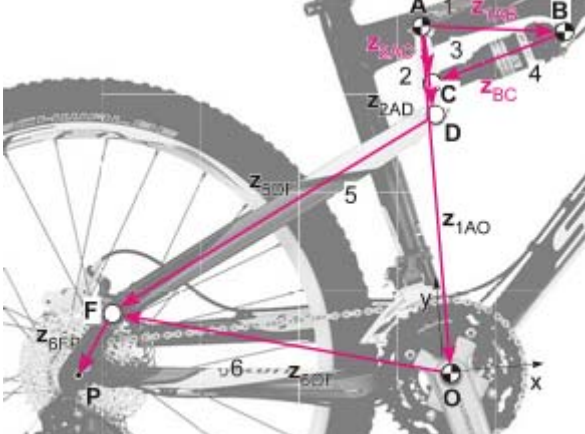
Errata corrige

Nel conteggio righe si considerano solo le righe di testo (formule e tabelle sono escluse)

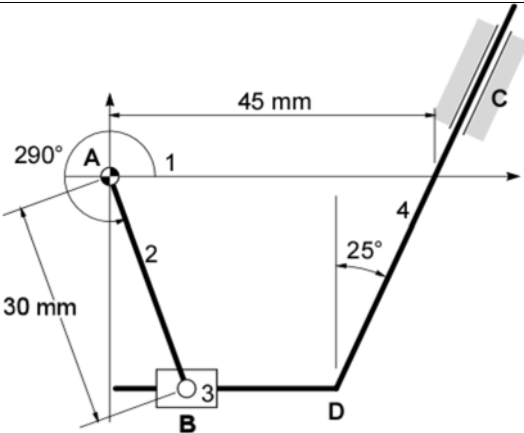
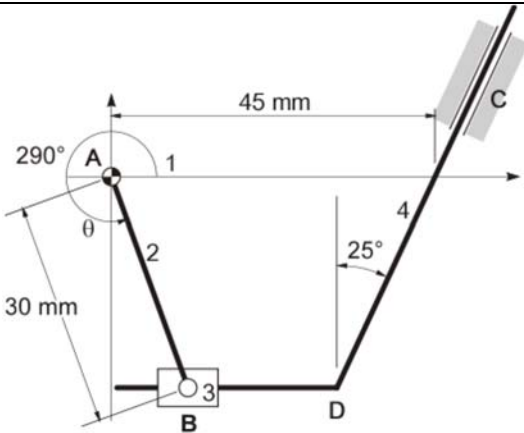
Pagina	Riga/Figura/ equazione/ tabella	Parte errata	Parte corretta
Pagine iniziali	Convenzioni e notazioni utilizzate nel testo	$\mathbf{v}^T = [v_x \quad v_y \quad v_x]$	$\mathbf{v}^T = [v_x \quad v_y \quad v_z]$
29	Fig. 2.13b		
34	19	corpim	corpi
40	(2.16)	$n_{gl} - n_{vd} = 3n_{cm} - 2c_1$	$n_{gl} - n_{vd} = 3n_{cm} - 2c_1 - C_2$
41	Es. 1	si determini il numero di maglie indipendenti e si verifichi che Errore. L'origine riferimento non è stata trovata. fornisca il risultato previsto	si verifichi che Errore. L'origine riferimento non è stata trovata. fornisca il risultato previsto

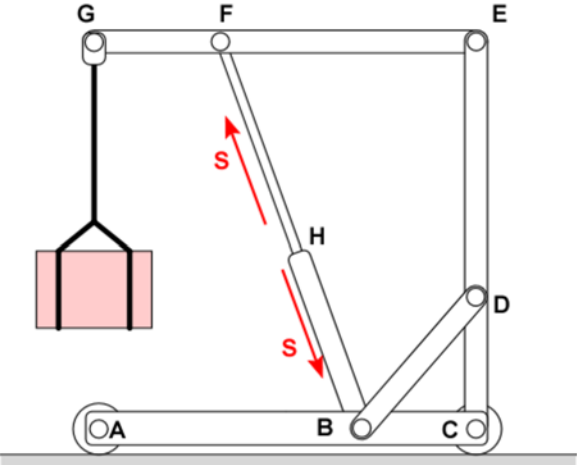
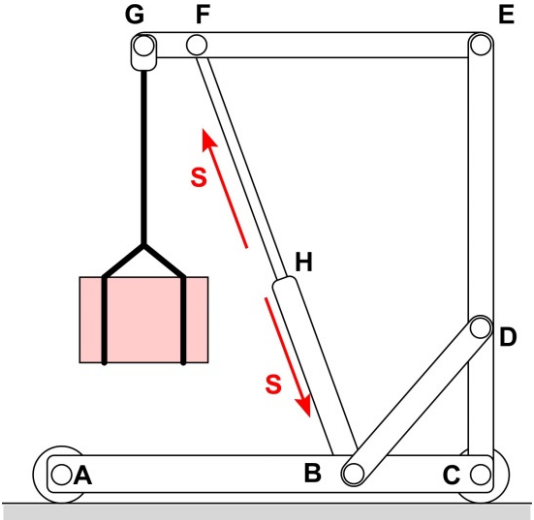
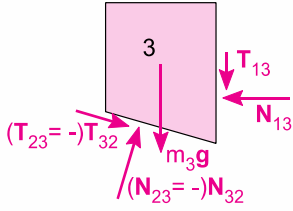
46	Nota 1	$0 < v < 1$	$-1 < v < 0,5$
72	Es. 9		
78	Fig. 4.3		

79	Fig. 4.4	<p>Diagram (a) shows the mechanism at rest. Diagram (b) shows link 2 rotating clockwise. Diagram (c) shows link 3 rotating counter-clockwise. Diagram (d) shows link 1 rotating clockwise.</p>	<p>Diagram (a) shows the mechanism with the frame labeled 'telaio'. Diagram (b) shows link 2 rotating clockwise. Diagram (c) shows link 3 rotating counter-clockwise. Diagram (d) shows link 1 rotating clockwise.</p>
79	(4.1)	$n_{gl} = 3n_{cm} - 2c_1 - 2c_2 = 3 \cdot 3 - 2 \cdot 3 - 2 = 1$	$n_{gl} = 3n_{cm} - 2c_1 - c_2 = 3 \cdot 3 - 2 \cdot 3 - 2 = 1$

81	Fig. 4.7b	 <p>(b)</p>	
82	Righe 8-11 dal basso	Non è definito esplicitamente il concetto di maglie indipendenti	<p>Definizione di maglia indipendente: In un meccanismo, una maglia è un percorso chiuso formato da un'alternanza di corpi e coppie cinematiche. Un insieme di maglie che contiene tutti i corpi e le coppie del meccanismo, e che non può essere ridotto senza escludere almeno un corpo o una coppia è detto insieme di maglie indipendenti.</p> <p>La seguente formula di Eulero consente di determinare il numero di maglie indipendenti in un grafo: Numero_maglie_indipendenti=e-v+1 in cui e= numero dei lati (edges) del grafo; v= numero dei vertici del grafo</p> <p>Per applicare questa formula a un meccanismo, basta considerare che i vertici del grafo corrispondono ai corpi del meccanismo, mentre le coppie (considerate con la loro molteplicità) ai suoi lati</p>
83	(4.8)	$x = \theta_2$	$x = \theta_3$
83	ultima riga	centro D	centro C
92	25	$\omega_3 = v_{rB_C} / z_4$	$\omega_4 = v_{rB_C} / z_4$

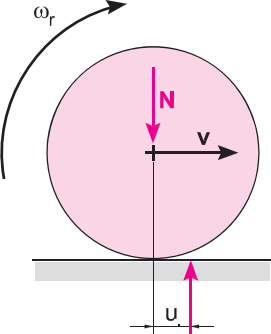
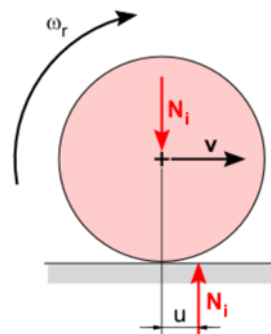
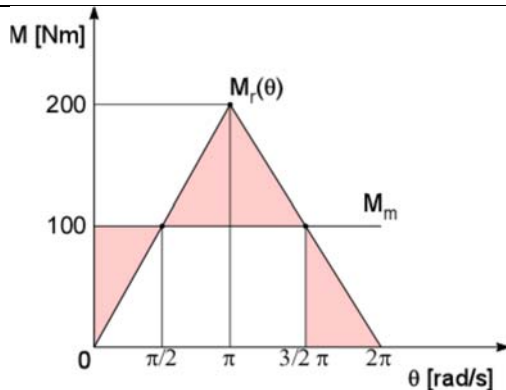
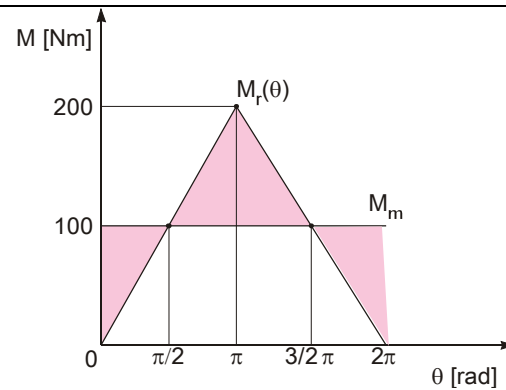
101	(4.51)	$\tau_{21} = \omega_1 / \omega_2 = -l_{P12_23} / l_{P12_13} = r_2 / l_1$	$\tau_{21} = \omega_1 / \omega_2 = l_{P12_23} / l_{P12_13} = r_2 / l_1$
103	terza riga dal basso	raggio l_1	raggio l_1
106	(4.60)	$\mathbf{a}_{A_2} = \mathbf{a}_O + \mathbf{a}_{rA_O} + \mathbf{a}_{mA_O} = \dot{\omega}_2 \times (\mathbf{A} - \mathbf{O}) - \omega_2^2 \times (\mathbf{A} - \mathbf{O}) = \mathbf{a}_{A_3}$	$\mathbf{a}_{A_2} = \mathbf{a}_O + \mathbf{a}_{rA_O} + \mathbf{a}_{mA_O} = \dot{\omega}_2 \times (\mathbf{A} - \mathbf{O}) - \omega_2^2 (\mathbf{A} - \mathbf{O}) = \mathbf{a}_{A_3}$
106	(4.61)	$\mathbf{a}_{B_3} = \mathbf{a}_A + \mathbf{a}_{rB_A} + \mathbf{a}_{mB_A} = \mathbf{a}_A + \dot{\omega}_3 \times (\mathbf{B} - \mathbf{A}) - \omega_3^2 \times (\mathbf{B} - \mathbf{A})$ $\mathbf{a}_{B_4} = \mathbf{a}_C + \mathbf{a}_{rB_C} + \mathbf{a}_{mB_C} = \dot{\omega}_4 \times (\mathbf{B} - \mathbf{C}) - \omega_4^2 \times (\mathbf{B} - \mathbf{C})$	$\mathbf{a}_{B_3} = \mathbf{a}_A + \mathbf{a}_{rB_A} + \mathbf{a}_{mB_A} = \mathbf{a}_A + \dot{\omega}_3 \times (\mathbf{B} - \mathbf{A}) - \omega_3^2 (\mathbf{B} - \mathbf{A})$ $\mathbf{a}_{B_4} = \mathbf{a}_C + \mathbf{a}_{rB_C} + \mathbf{a}_{mB_C} = \dot{\omega}_4 \times (\mathbf{B} - \mathbf{C}) - \omega_4^2 (\mathbf{B} - \mathbf{C})$
107	Fig. 4.29		
108	Fig. 4.30		
110	Riga 4	θ_2 e z_3	θ_3 e z_3

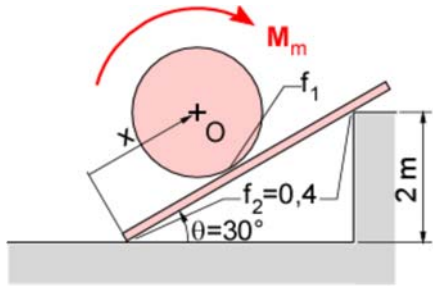
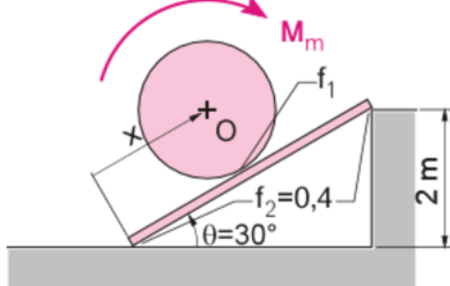
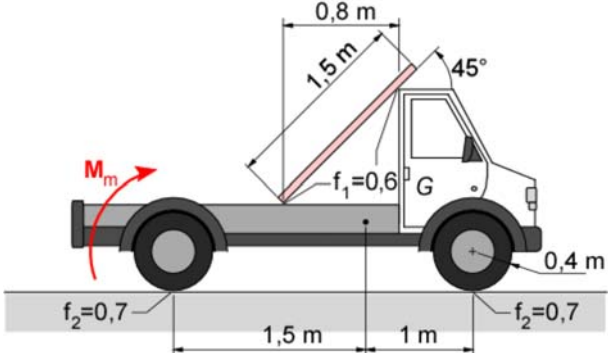
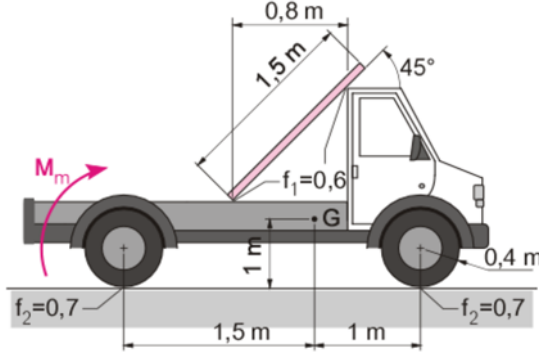
110	(4.74)	$\theta_3 = \arctan 2 \left(\frac{(y_c - z_2 \cos(\theta_2))}{z_3}, \frac{(y_c - z_2 \sin(\theta_2))}{z_3} \right)$	$\theta_3 = \arctan 2 \left(\frac{(y_c - z_2 \sin(\theta_2))}{z_3}, \frac{(x_c - z_2 \cos(\theta_2))}{z_3} \right)$
113	Es. 2		
114	Es. 5	<p><i>sostituire la frase</i></p> <p>- nella posizione in figura, determinare graficamente le accelerazioni di P per $\omega_2 = 4 \text{ rad/s}$, $\omega_3 = -3 \text{ rad/s}$, $\dot{\omega}_2 = -2 \text{ rad/s}^2$, $\dot{\omega}_3 = 0 \text{ rad/s}^2$.</p>	<p><i>con</i></p> <p>- determinare graficamente le accelerazioni di P per $t=0$</p>
122	prima riga Sez. 5.3.1	riportate nel (Capitolo 8) per un singolo membro	riportate in Appendice C per un singolo membro

<p>123</p>	<p>Fig. 5.8</p>		
<p>124</p>	<p>Fig. 5.9</p>		<p>Le parentesi sono sbagliate esempio $T_{23} (= -T_{32})$</p>

130	Figura 5.13a		
130	Figura 5.13b		
138	Fig. 5.18d		
138	(5.23)	$P_a = P_{s2}(m_A + m_B)g = 2943 \text{ N}$	$P_a = f_{s2}(m_A + m_B)g = 2\,943 \text{ N}$

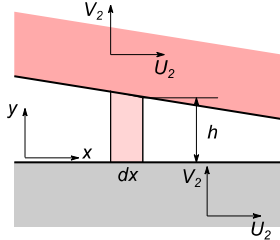
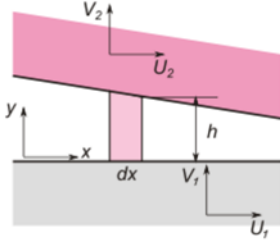
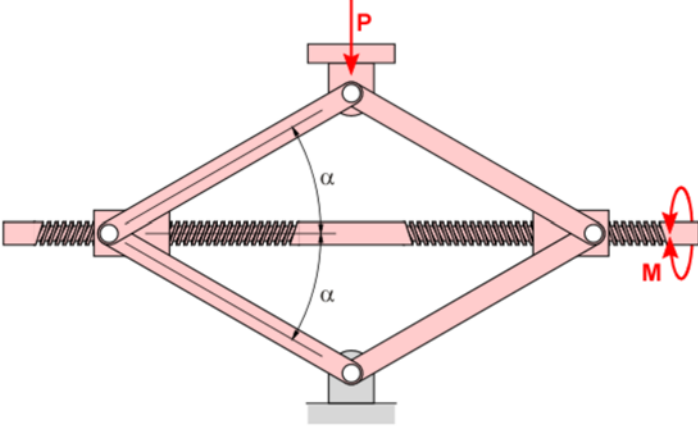
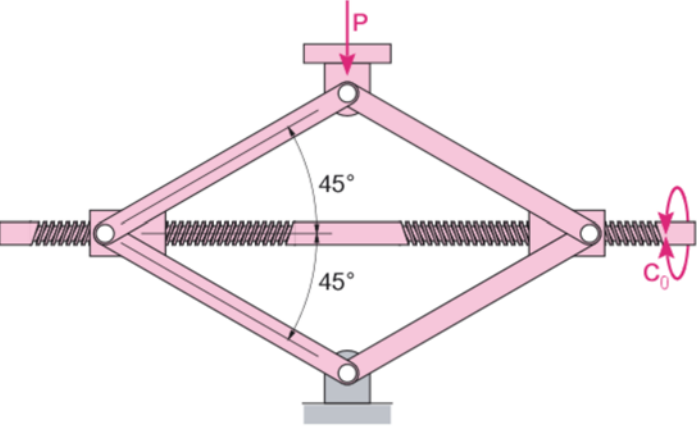
145	Es. 7		
161	(6.32)	$Q_z(t) = \mathbf{P} \cdot \frac{\partial \mathbf{z}_A}{\partial z} = P$	$Q_z(t) = \mathbf{P} \cdot \frac{\partial \mathbf{z}_A}{\partial z} = -P$
162	(6.33)	$Q_\theta(t) = \mathbf{P} \cdot \frac{\partial \mathbf{z}_A}{\partial \theta} = Pa$	$Q_\theta(t) = \mathbf{P} \cdot \frac{\partial \mathbf{z}_A}{\partial \theta} = -Pa$
162	(6.35)	$J_G \ddot{\theta} + k_a a(z + a\theta) - k_b b(z - b\theta) - Pa = 0$	$J_G \ddot{\theta} + k_a a(z + a\theta) - k_b b(z - b\theta) + Pa = 0$
162	(6.35)	$\begin{bmatrix} m & 0 \\ 0 & J_G \end{bmatrix} \begin{bmatrix} \ddot{z} \\ \ddot{\theta} \end{bmatrix} + \begin{bmatrix} k_a + k_b & ak_a - bk_b \\ ak_a - bk_b & a^2 k_a + b^2 k_b \end{bmatrix} \begin{bmatrix} z \\ \theta \end{bmatrix} + \begin{bmatrix} P + mg \\ -Pa \end{bmatrix} = \begin{bmatrix} 0 \\ 0 \end{bmatrix}$	$\begin{bmatrix} m & 0 \\ 0 & J_G \end{bmatrix} \begin{bmatrix} \ddot{z} \\ \ddot{\theta} \end{bmatrix} + \begin{bmatrix} k_a + k_b & ak_a - bk_b \\ ak_a - bk_b & a^2 k_a + b^2 k_b \end{bmatrix} \begin{bmatrix} z \\ \theta \end{bmatrix} + \begin{bmatrix} P + mg \\ Pa \end{bmatrix} = \begin{bmatrix} 0 \\ 0 \end{bmatrix}$
169	Riga 3	la reazione \mathbf{R}' si inclina dell'angolo ϕ in verso antiorario	la reazione \mathbf{R}' si inclina dell'angolo ϕ in verso orario
170	Riga 5	$\eta'(f) = \eta(0) + \left. \frac{\partial \eta}{\partial f} \right _{f=0} f + \dots \cong 1 - \varepsilon f$	$\eta(f) = \eta(0) + \left. \frac{\partial \eta}{\partial f} \right _{f=0} f + \dots \cong 1 - \varepsilon f$

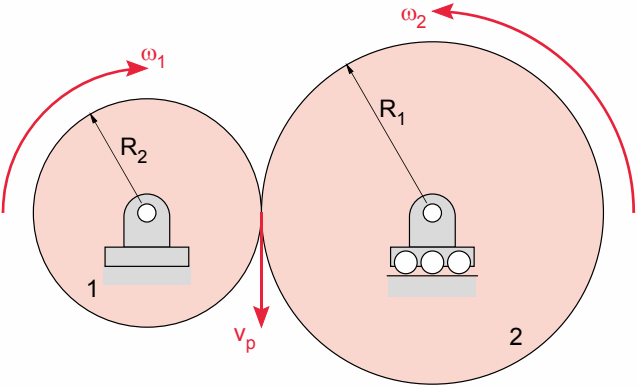
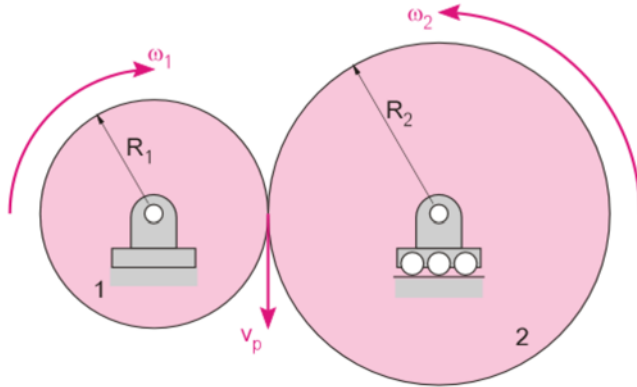
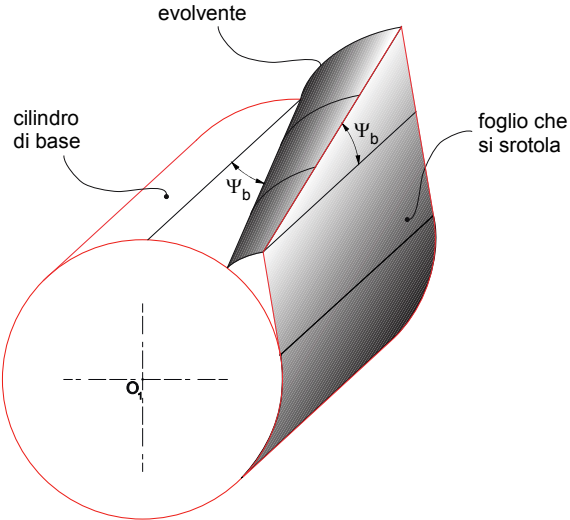
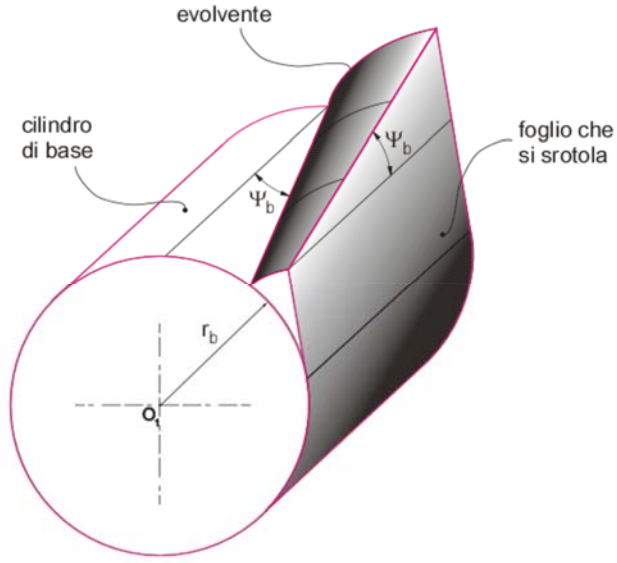
172	Fig. 6.16		
172	Riga 6	la (Errore. L'origine riferimento non è stata trovata.) può ora esprimersi	la (Errore. L'origine riferimento non è stata trovata.) può ora esprimersi
173	(6.68)	$\begin{cases} P_{t1} - P_{fm} = \frac{d}{dt} \left(\frac{1}{2} J_m \omega_m^2 \right) \\ P_{t1} = \omega_r P_{t2} \\ P_{ch} - P_{t2} = \frac{d}{dt} \left(\frac{1}{2} m v^2 \right) \end{cases}$	$\begin{cases} P_{t1} - P_{fm} = \frac{d}{dt} \left(\frac{1}{2} J_m \omega_m^2 \right) \\ P_{t1} = \eta_r P_{t2} \\ P_{ch} - P_{t2} = \frac{d}{dt} \left(\frac{1}{2} m v^2 \right) \end{cases}$
186	(6.111)	$M_m + F_r \tau_{s\theta} = (J_m + m \tau_{s\theta}^2) \ddot{\theta} + m \tau_{s\theta} \tau'_{s\theta} \dot{\theta}^2$	$M_m + F_r \tau_{\theta s} = (J_m + m \tau_{\theta s}^2) \ddot{\theta} + m \tau_{\theta s} \tau'_{\theta s} \dot{\theta}^2$
188	(6.122)	$\int_{\theta_1}^{\theta_2} [(M_m^* + M_{in,t}^*) - M_r^* + M_p^*] d\theta = \int_{\omega_1}^{\omega_2} (J_r + J_t^*(\theta)) \omega d\omega$	$\int_{\theta_1}^{\theta_2} [(M_m^* + M_{in,t}^*) - M_r^* + M_p^*] d\theta = \int_{\omega_1}^{\omega_2} (J_r^* + J_t^*(\theta)) \omega d\omega$
189	Fig. 6.30		

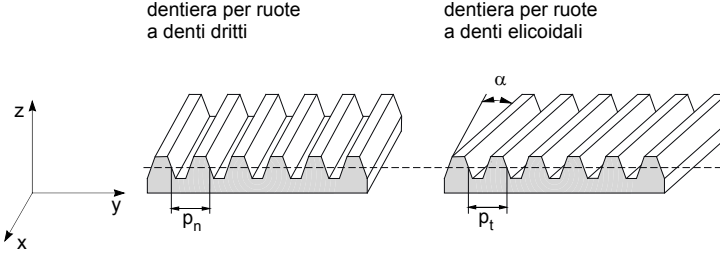
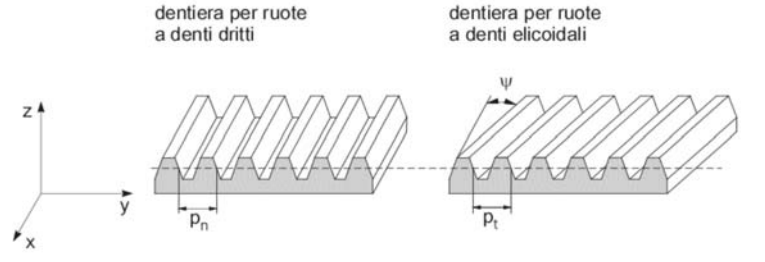
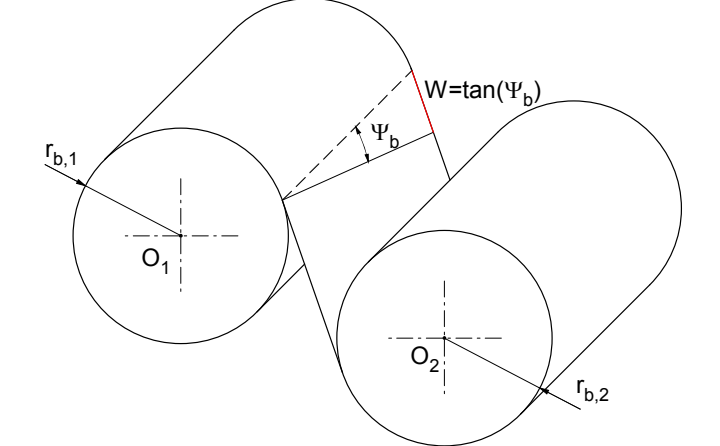
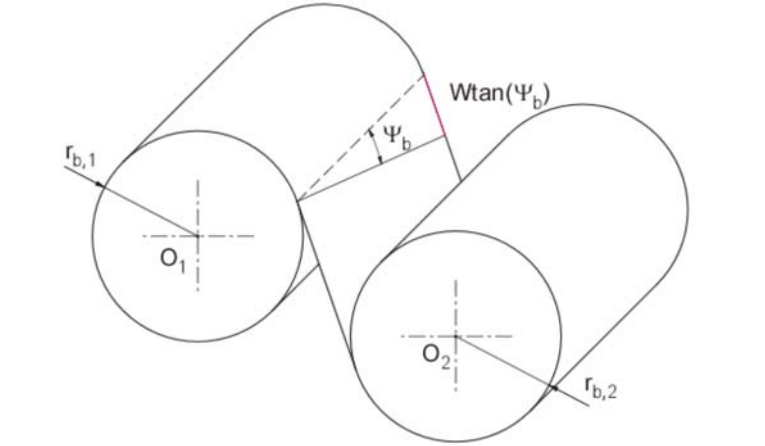
197	Es. 7		
198	Es. 11		
198	Es. 13	Manca il valore del raggio di rotolamento delle ruote	Aggiungere: $r=400\text{ mm}$ raggio di rotolamento delle ruote
202	Es. 29	Un motore asincrono di potenza nominale ...	Un motore asincrono "4 poli" di potenza nominale ...
210	Riga 3 dal basso	oltre all'azione della molla $F_k = -(kx + \Delta)$,	oltre all'azione della molla $F_k = -k(x + \Delta)$,
211	Riga 16	$F_i \ominus + F_{el} = 0$	$F_i + F_{el} = 0$
215	Riga 11	$\approx l_1 (1 - x \text{sen} \beta)$	$\approx l_1 - x \text{sen} \beta$
215	Riga 11	$l_2 (1 - x \text{sen} \alpha)$.	$\approx l_2 - x \text{sen} \alpha$
219	Riga 11	$x = \frac{y_1 + y_2}{2}$	valida solo per $l_1 = l_2$

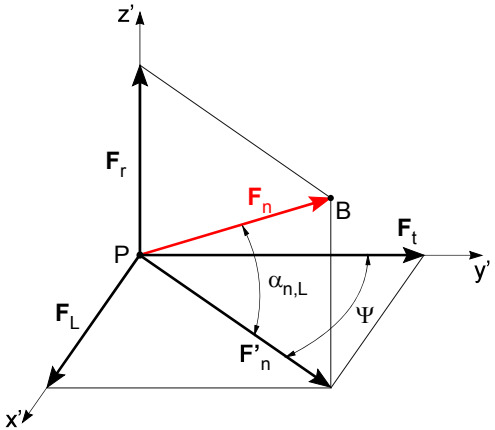
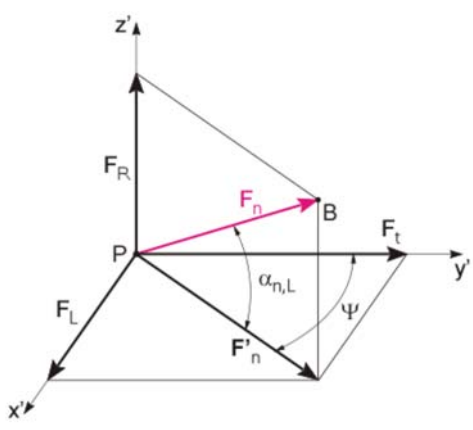
219	(7.23)	$\frac{d}{dt} \left(\frac{\partial T}{\partial \dot{y}_1} \right) = \left[\frac{m}{4} + \frac{J_G}{(\ell_1 + \ell_2)^2} \right] \dot{y}_1 + \left[\frac{m}{4} - \frac{J_G}{(\ell_1 + \ell_2)^2} \right] \dot{y}_2$ $\frac{d}{dt} \left(\frac{\partial T}{\partial \dot{y}_2} \right) = \left[\frac{m}{4} - \frac{J_G}{(\ell_1 + \ell_2)^2} \right] \dot{y}_1 + \left[\frac{m}{4} + \frac{J_G}{(\ell_1 + \ell_2)^2} \right] \dot{y}_2$ $\frac{\partial U}{\partial y_1} = k_1 y_1, \quad \frac{\partial U}{\partial y_2} = k_2 y_2$	$\frac{d}{dt} \left(\frac{\partial T}{\partial \dot{y}_1} \right) = \left[\frac{m}{4} + \frac{J_G}{(\ell_1 + \ell_2)^2} \right] \dot{y}_1 + \left[\frac{m}{4} - \frac{J_G}{(\ell_1 + \ell_2)^2} \right] \dot{y}_2,$ $\frac{d}{dt} \left(\frac{\partial T}{\partial \dot{y}_2} \right) = \left[\frac{m}{4} - \frac{J_G}{(\ell_1 + \ell_2)^2} \right] \dot{y}_1 + \left[\frac{m}{4} + \frac{J_G}{(\ell_1 + \ell_2)^2} \right] \dot{y}_2,$ $\frac{\partial U}{\partial y_1} = k_1 y_1, \quad \frac{\partial U}{\partial y_2} = k_2 y_2$
223	Riga 4	$t^* \neq 0,$	t^* (può anche essere 0)
223	Riga 16	[rad/s ⁻¹]	[rad s ⁻¹]
223	(7.36)	$E(t) = m\dot{x}_0^2 + kx_0^2 = \text{cost}$	$E(t) = \frac{1}{2}(m\dot{x}_0^2 + kx_0^2) = \text{cost}$
226	esempio 7.7	$f_n = 2\pi \sqrt{\frac{1,239 \times 10^5 \frac{\text{N}}{\text{m}}}{1 \text{kg}}} = 2211,65 \text{ Hz}$	$f_n = \frac{1}{2\pi} \sqrt{\frac{1,239 \times 10^5 \frac{\text{N}}{\text{m}}}{1 \text{kg}}} = 56,02 \text{ Hz}$
226	Esempio 7.8	-	<i>Alla fine del testo aggiungere: Calcolare la frequenza propria.</i>
227	Esempio 7.9	$\theta_M = \frac{GJ_p}{\ell} M$	$\theta_M = \frac{\ell}{GJ_p} M$
229	(7.39)	$\alpha^2 + 2\zeta\omega_n\alpha + \omega_n^2 = 0 \Rightarrow \alpha_{1,2} = \begin{cases} (-\zeta - \sqrt{\zeta^2 - 1})\omega_n \\ (-\zeta + \sqrt{\zeta^2 - 1})\omega_n \end{cases}$	$\alpha^2 + 2\zeta\omega_n\alpha + \omega_n^2 = 0 \Rightarrow \alpha_{1,2} = \begin{cases} (-\zeta - \sqrt{\zeta^2 - 1})\omega_n \\ (-\zeta + \sqrt{\zeta^2 - 1})\omega_n \end{cases}$
231	(7.45)	$A_1 = \frac{x_0}{2} + j \frac{x_0 \alpha^R - \dot{x}_0}{2\alpha^I}, \quad A_2 = \frac{x_0}{2} - j \frac{x_0 \alpha^R - \dot{x}_0}{2\alpha^I}$	$A_1 = \frac{x_0}{2} + j \frac{x_0 \alpha^R - \dot{x}_0}{2\alpha^I}, \quad A_2 = \frac{x_0}{2} - j \frac{x_0 \alpha^R - \dot{x}_0}{2\alpha^I}$
233	(7.48)	$x(t) = \underbrace{\tilde{X} e^{-\zeta\omega_n t} \sin(\sqrt{1-\zeta^2}\omega_n t + \phi)}_{x_{oa}} + \underbrace{\hat{X} \cos(\omega t - \psi)}_{x_p}$	$x(t) = \underbrace{\tilde{X} e^{-\zeta\omega_n t} \cos(\sqrt{1-\zeta^2}\omega_n t + \phi)}_{x_{oa}} + \underbrace{\hat{X} \cos(\omega t - \psi)}_{x_p}$

233	riga 5 dal basso	$\psi = \arctan 2 \left(\frac{2\zeta\omega/\omega_n}{1 - (\omega/\omega_n)^2} \right)$	$\psi = \arctan 2 \left(\frac{2\zeta\omega/\omega_n}{1 - (\omega/\omega_n)^2} \right)$
234	Fig. 7.34		
237	Riga 1	$y = Y_0 e^{j\omega t}$	$y = Y_0 e^{j\omega t}$
240	Titolo 7.5	SISTEMI A DUE GRADI DI LIBERTÀ (CENNI)	SISTEMI AD "N" GRADI DI LIBERTÀ (CENNI)
241	(7.65)	$\frac{\ddot{r}(t)}{r(t)} = -\frac{\phi^T \mathbf{M} \phi}{\phi^T \mathbf{K} \phi} = \text{cost} = -\omega^2$	$\frac{\ddot{r}(t)}{r(t)} = -\frac{\phi^T \mathbf{K} \phi}{\phi^T \mathbf{M} \phi} = \text{cost} = -\omega^2$
254	Esempio 8.1		<i>Alla fine del testo aggiungere:</i> distanza tra i piani di equilibratura: $l=0,5\text{m}$
259	Riga 8	$w(t) = x(t) + j y(t)$	$w(t) = x(t) + j y(t)$
262	Esercizio 2	$\varphi = 30^\circ$	$\varphi_A = 30^\circ$
265-267-269-ecc.	Titolo del capitolo	MACCHINE DELLE COPPIE CINEMATICHE	MECCANICA DELLE COPPIE CINEMATICHE
270	Riga 4	(9.12) nella (9.13)	(9.12) nella (9.11)
272	Riga 10	Se si desidera svitare la vite	Se si desidera avvitare la vite
272	Riga 17	la vite può essere svitata solo applicando ...	la vite può essere avvitata solo applicando ...
279	Riga 5-6	si considerino i tre punti A , B e C allineati e disposti radialmente sulla sezione di un elemento volvente in corrispondenza rispettivamente del diametro esterno	si considerino i tre punti A , B e C allineati e disposti radialmente sulla sezione di un elemento volvente in corrispondenza rispettivamente del raggio esterno R_e , del

		R_e , del diametro medio degli elementi volventi ovvero della gabbia R_g e del diametro interno R_i .	raggio medio degli elementi volventi ovvero della gabbia R_g e del raggio interno R_i .
280	(9.42)	$\omega_v = \frac{v_C - v_A}{2r} = \frac{\omega_e R_e - \omega_i R_i}{R_e - R_i}$	$\omega_v = \frac{v_A - v_C}{2r} = \frac{\omega_e R_e - \omega_i R_i}{R_e - R_i}$
283	Riga 2	ingegnere ferroviario britannico Beauchamp Towers	ingegnere ferroviario britannico Beauchamp Tower
287	Fig. 9.32		
308	Riga 17	Le coppie a lubrificazione idrodinamica sono specialmente applicate	Le coppie a lubrificazione idrostatica sono specialmente applicate
309	Riga 30	viscosità cinematica $\nu = \mu/\rho$	viscosità cinematica $\nu = \mu/\rho$
311	Esercizio 5		

<p>316</p>	<p>Fig. 10.4</p>		
<p>335</p>	<p>Riga 12</p>	<p>imporre che il vano su una ruota corrisponda al passo nell'altra ruota</p>	<p>imporre che il vano su una ruota corrisponda allo spessore nell'altra ruota</p>
<p>345</p>	<p>Fig. 10.24</p>		

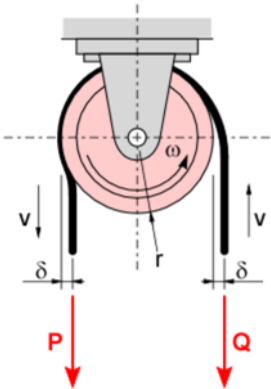
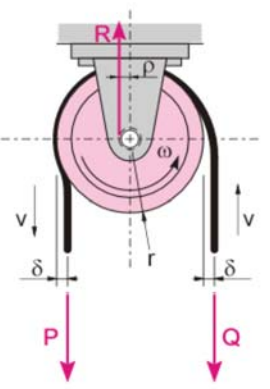
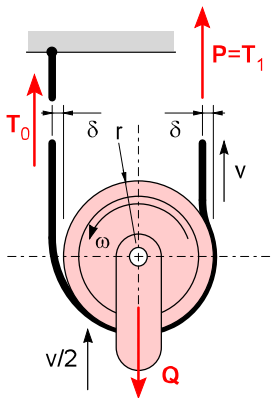
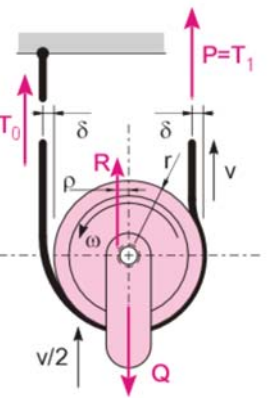
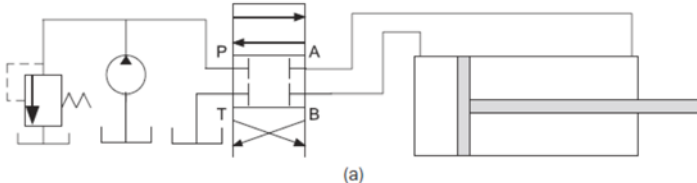
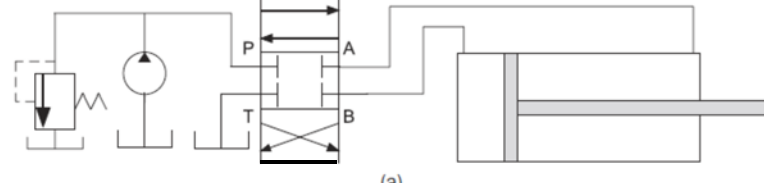
<p>348</p>	<p>Fig. 10.28</p>	<p>dentiera per ruote a denti dritti dentiera per ruote a denti elicoidali</p> 	<p>dentiera per ruote a denti dritti dentiera per ruote a denti elicoidali</p> 
<p>351</p>	<p>Fig. 10.31</p>		

353	Fig. 10.34		
366	Esercizio 6	Domanda 7	<i>sostituire Si/No con maggiore/minore</i>
372	Esempio 11.1	uscita (2)	uscita (5)
377	Equazioni sotto Fig. 11.10	$Ry: T_{54} \cdot d_1 - R_{23} \cdot d_2 - A_{23} \cdot r_3 + D_X \cdot d_3 = 0$	$Ry: -T_{54} \cdot d_1 - R_{23} \cdot d_2 - A_{23} \cdot r_3 + D_X \cdot d_3 = 0$
380	Riga 8	τ	τ_0
380	Riga 10	$\tau_2 = \frac{\omega_{3R}}{\omega_{2R}} = -\frac{z_2}{z_3}$	$\tau_2 = \frac{\omega_{3R}}{\omega_{2R}} = \frac{z_2}{z_3}$
384	ultima riga	$\omega_p = 150 \text{ rad/s}, \omega_5 = 50 \text{ rad/s}, z_1 = 18, z_2 = 30, z_3 = 28, z_4 = 20$	$\omega_p = 150 \text{ rad/s}, \omega_4 = 50 \text{ rad/s}, z_1 = 18, z_2 = 30, z_3 = 28, z_4 = 20$

392	Fig. 11.30		
395	(11.49)	$(\tau_0 < 1)$	$(\tau_0 < 0 \text{ o } \tau_0 > 1)$
402	Fig. 11.38		
416	Esempio 11.7	-	<i>Alla fine del testo aggiungere: Si verifichi l'aderenza della cinghia sulla puleggia.</i>
416	Esempio 11.7	$m = \rho b h = 1150 \frac{\text{kg}}{\text{m}^3} 15 \times 10^{-2} \text{m}^3 \times 10^{-3} \text{m} = 0,52 \frac{\text{kg}}{\text{m}}$	$m = \rho b h = 1150 \frac{\text{kg}}{\text{m}^3} 15 \times 10^{-2} \text{m} 3 \times 10^{-3} \text{m} = 0,52 \frac{\text{kg}}{\text{m}}$
416	Esempio 11.7	$m v^2 = 0,52 \frac{\text{kg}}{\text{m}} 13,74 \frac{\text{m}^2}{\text{s}^2} = 97,76 \text{N}$	$m v^2 = 0,52 \frac{\text{kg}}{\text{m}} (13,74)^2 \frac{\text{m}^2}{\text{s}^2} = 97,76 \text{N}$
416	Esempio 11.7	$M_2 = \frac{1,25 P_{nom}}{\left(n \frac{2\pi}{60} \frac{\text{rad/s}}{\text{rpm}}\right)} = \frac{1,25 \times 11000 \text{W}}{\left(1750 \frac{2\pi}{60}\right) \text{rad/s}} = 82,53 \text{Nm}$	$M_d = \frac{1,25 P_{nom}}{n \frac{2\pi}{60} \frac{\text{rad/s}}{\text{rpm}}} = \frac{1,25 \times 11000 \text{W}}{1750 \frac{2\pi}{60} \text{rad/s}} = 75,03 \text{Nm}$

416	Esempio 11.7	$\Delta T = T_1 - T_2 = \frac{M_d}{d/2} = \frac{82.53 \text{ Nm}}{\left(\frac{15 \times 10^{-2} \text{ m}}{2}\right)} = 1100 \text{ N}$	$\Delta T = T_1 - T_2 = \frac{M_d}{d/2} = \frac{75.03 \text{ Nm}}{\left(\frac{15 \times 10^{-2} \text{ m}}{2}\right)} = 1000 \text{ N}$
417	Esempio 11.7	$T_2 = T_1 - \Delta T = 716 \text{ N}$	$T_2 = T_1 - \Delta T = 816 \text{ N}$
417	Esempio 11.7	$f = \frac{1}{\alpha} \log\left(\frac{T_1 - mv^2}{T_2 - mv^2}\right) = \frac{1}{3.01 \text{ rad}} \log\left(\frac{1817 \text{ N} - 98 \text{ N}}{716 \text{ N} - 98 \text{ N}}\right) = 0.34$	$f = \frac{1}{\alpha} \log\left(\frac{T_1 - mv^2}{T_2 - mv^2}\right) = \frac{1}{3.01 \text{ rad}} \log\left(\frac{1817 \text{ N} - 98 \text{ N}}{816 \text{ N} - 98 \text{ N}}\right) = 0.29$
417	Esempio 11.8	$T = mgT_1 = T_2 e^{fs} = 646 \text{ N}$	$T = mg \cdot e^{fs} = 646 \text{ N}$
420	Riga 5	$\gamma = \frac{2\pi}{2}$	$\gamma = \frac{2\pi}{z}$
424	Fig. 11.68b		
436	(12.11)	$s_{ad} = (t_{ad} - \text{sen}(2\pi t_{ad})),$	$s_{ad} = (t_{ad} - \text{sen}(2\pi t_{ad}) / 2\pi),$
443	(12.17)	$\Delta y_{Bo} = 2 \tan(\alpha) \Delta x_{Av}$	$\Delta x_{Bo} = 2 \tan(\alpha) \Delta y_{Av}$
449	Riga 3 dal fondo	$\{x_{cam}(\varphi) \quad y_{cam}(\varphi)\}$	$\{x_{cam}(\theta) \quad y_{cam}(\theta)\}$

449	Fig. 12.23		
450	(12.18)	${}^w\mathbf{C} = [e \quad R_b + R_c + h(\theta)]^T$	${}^w\mathbf{C} = [e \quad \sqrt{(R_b + R_c)^2 - e^2} + h(\theta)]^T$
450	(12.20)	${}^c\mathbf{C} = \mathbf{R}_{cw} {}^w\mathbf{C} = \begin{bmatrix} \cos(\theta) & \sin(\theta) \\ -\sin(\theta) & \cos(\theta) \end{bmatrix} \begin{bmatrix} e \\ R_b + R_c + h(\theta) \end{bmatrix} =$ $= \begin{bmatrix} x_c \\ y_c \end{bmatrix} = \begin{bmatrix} e \cos(\theta) + (R_b + R_c + h(\theta)) \sin(\theta) \\ -e \sin(\theta) + (R_b + R_c + h(\theta)) \cos(\theta) \end{bmatrix}$	${}^c\mathbf{C} = \mathbf{R}_{cw} {}^w\mathbf{C} = \begin{bmatrix} \cos \theta & \sin \theta \\ -\sin \theta & \cos \theta \end{bmatrix} \begin{bmatrix} e \\ \sqrt{(R_b + R_c)^2 - e^2} + h(\theta) \end{bmatrix} =$ $= \begin{bmatrix} x_c \\ y_c \end{bmatrix} = \begin{bmatrix} e \cos \theta + (\sqrt{(R_b + R_c)^2 - e^2} + h(\theta)) \sin \theta \\ -e \sin \theta + (\sqrt{(R_b + R_c)^2 - e^2} + h(\theta)) \cos \theta \end{bmatrix}$
451	(12.21)	$\alpha = \arctan\left(\frac{ \mathbf{AB} }{ \mathbf{BC} }\right) = \arctan\left(\frac{ h_{,\theta} \pm e }{R_b + R_c + h(\theta)}\right)$	$\alpha = \arctan\left(\frac{ \mathbf{AB} }{ \mathbf{BC} }\right) = \arctan\left(\frac{ h_{,\theta} \pm e }{\sqrt{(R_b + R_c)^2 - e^2} + h(\theta)}\right)$
451	Riga 15	$ \mathbf{BC} = R_b + R_c + h(\theta)$	$ \mathbf{BC} = a\sqrt{(R_b + R_c)^2 - e^2} + h(\theta)$
480	(13.13)	$\omega = \frac{P_u}{P_i} = \frac{M_u \omega_u}{M_i \omega_i} = \frac{\omega_u}{\omega_i} = 1 - s$	$\eta = \frac{P_u}{P_i} = \frac{M_u \omega_u}{M_i \omega_i} = \frac{\omega_u}{\omega_i} = 1 - s$

491	Fig. 13.23a	 <p>Diagram of a pulley with forces P and Q applied to the rope. The pulley has radius r and the rope makes a contact angle δ on both sides. The pulley is shown with angular velocity ω and linear velocity v.</p>	 <p>Diagram of a pulley with forces P and Q applied to the rope. The pulley has radius r and the rope makes a contact angle δ on both sides. The pulley is shown with angular velocity ω and linear velocity v. A reaction force R is shown acting upwards from the pulley's support.</p>
491	Fig. 13.23b	 <p>Diagram of a pulley with forces T_0, $P=T_1$, and Q applied to the rope. The pulley has radius r and the rope makes a contact angle δ on both sides. The pulley is shown with angular velocity ω and linear velocity v. The force Q is applied to the bottom of the pulley, and the velocity is $v/2$.</p>	 <p>Diagram of a pulley with forces T_0, $P=T_1$, and Q applied to the rope. The pulley has radius r and the rope makes a contact angle δ on both sides. The pulley is shown with angular velocity ω and linear velocity v. A reaction force R is shown acting upwards from the pulley's support. The force Q is applied to the bottom of the pulley, and the velocity is $v/2$.</p>
503	(13.47)	$Q = k_v s \sqrt{(p_p - p_B) + (p_A - p_T)} = k_v s \sqrt{(p_p - p_T) - (p_B - p_A)} = k_v s \sqrt{(p_p - p_T) - p_c}$	$Q = k_v s \sqrt{(p_p - p_B) + (p_A - p_T)} = k_v s \sqrt{(p_p - p_T) - (p_B - p_A)} = k_v s \sqrt{(p_p - p_T) - \Delta p_c}$
504	(13.50)	$\frac{Q}{Q_{\max}} = \sqrt{1 - \frac{\Delta p_c}{p_p - p_T} \frac{s}{s_{\max}}}$	$\frac{Q}{Q_{\max}} = \sqrt{1 - \frac{\Delta p_c}{p_p - p_T} \frac{s}{s_{\max}}}$
509	Fig. 13.50 (a)	 <p>Hydraulic circuit diagram (a) showing a pump, a valve with positions A and B, and a cylinder. The valve is currently in position A.</p>	 <p>Hydraulic circuit diagram (a) showing a pump, a valve with positions A and B, and a cylinder. The valve is currently in position B.</p>
529	Ultima riga	$x = [6 \quad -5 \quad 2]^T$	$x = [-4 \quad -5 \quad 2]^T$

560	Riga 7	i moduli di F_D ed F_C sono ricavati dal triangolo delle forze	i moduli di F_B ed F_C sono ricavati dal triangolo delle forze
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